

# Test Report

Report No. BCTCY2003000213R

Date: Mar. 17, 2020

**Applicant** : Shenzhen Jubaopen Stationery & Gift Co., Ltd

**Address** : No.89, 27th Building, The Second industrial Village of Songgang Town,  
Bao'an District, Shenzhen, Guangdong

**The submitted sample and sample information was/were submitted and identified by/on the behalf of the client**

**Sample name** : Stylus Pen

**Testing type /model** : P136

**Additional type /model** : P136A, P248, P248A, P196, P249, P189, P195, P200, P198, P207, P191,  
P104, P098, P160, P202, P110, P201, P122, P208, M305A

**Test age group** : 0+

**Manufacturer** : Shenzhen Jubaopen Stationery & Gift Co., Ltd

**Address** : No.89, 27th Building, The Second industrial Village of Songgang Town,  
Bao'an District, Shenzhen, Guangdong

**Sample received date** : Mar. 10, 2020

**Testing period** : Mar. 10, 2020 - Mar. 17, 2020

Executive Summary:	
TEST REQUEST	CONCLUSION
<b>European Standard on Safety of Toys</b>	
- EN 71-1:2014+A1:2018 Mechanical and Physical Properties	PASS
- EN 71-2:2011+A1:2014 Flammability of Toys	PASS
- EN 71-3:2019 Migration of certain elements	PASS
For chemical test, the tested component(s) is/are identified by the applicant.	

\*\*\*\*\*For more detailed information, please refer to the next page\*\*\*\*\*

Tested by Liseo  
Zuxiang Li



Approved by Saher Chen  
Hanyao Chen



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## Tested Sample/Part Description:

- 1 White metal
- 2 Silver metal
- 3 Silver-white metal

## Test Result(s):

### ◆ Mechanical and physical properties

As specified in European Standard on Safety of Toys EN 71 part 1: 2014+A1:2018.

Clause	Description	Assessment
4	General requirements	
4.1	Material cleanliness	Pass
4.7	Edges	Pass
4.8	Points and metallic wires	Pass
5.1	General requirements	
5.1a	Small part requirement on toys & removable Components (Test method 8.2)	Pass
5.1b	Torque test (Test method 8.3)	Pass
	Tension test (Test method 8.4)	Pass
	Drop test (Test method 8.5)	Pass
	Compression test (Test method 8.8)	Pass
	Sharp edge (Test method 8.11)	Pass
	Sharp point (Test method 8.12)	Pass

### Note:

-Only applicable clause(s) was/ were shown.



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## ◆ Flammability of toys

As specified in European Standard on Safety of Toys EN 71 part 2:2011+A1:2014.

Clause	Description	Assessment
4.1	General	Pass

### Note:

4.1 The following materials shall not be used in the manufacture of toys:

- Celluloid (cellulose nitrate), except when used in varnish, paint or glue, or in balls of the type used for table tennis or similar games, and materials with the same behaviour in fire as celluloid. Specific materials to which the test flame is applied in order to check compliance of the toy with requirements in 4.2 to 4.5 are considered to comply with this requirement if the toy meets its appropriate requirements in 4.2 to 4.5;
- Materials with a piled surface which produce surface flash on the approach of a flame. Piled surfaces showing no momentary area of flame over the area of the piled surface remote from the test flame are considered to meet this requirement;
- Highly flammable solids.

In addition, toys shall not contain flammable gases, highly flammable liquids, flammable liquids, flammable gels except as provided for below:

- Flammable liquids, flammable gels and preparations supplied in sealed containers having a maximum volume of 15 ml per container;
- Highly flammable liquids and flammable liquids being entirely retained within a porous material in capillary channels of writing instruments;
- Flammable liquids with a viscosity greater than  $260 \times 10^{-6} \text{m}^2/\text{s}$  corresponding to a flow time of more than 38 s when determined in accordance with EN ISO 2431 using cup No. 6;
- Highly flammable liquids contained in toys covered in EN 71-5.

NOTE: Different legal requirements may exist in non-EU countries.

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## ◆ Migration of certain elements

As specified in European standard on safety of toys EN 71-3:2019 - Migration of certain elements, acid extraction method was used and toxic elements content were determined by ICP-OES, ICP-MS, IC-ICP-MS and GC-MS.

### For Category III materials: Scraped off materials

#### Test Results:

Code	Soluble Element	LOD (mg/kg)	Limit (mg/kg)		
			Category I	Category II	Category III
			dry, brittle, powder-like or pliable toy material	liquid or sticky toy material	scraped-off toy material
1	Al	0.073	5625	1406	70000
2	Sb	0.014	45	11.3	560
3	As	0.027	3.8	0.9	47
4	Ba	0.027	1500	375	18750
5	B	0.039	1200	300	15000
6	Cd	0.059	1.3	0.3	17
7	Cr <sup>3+</sup>	0.064	37.5	9.4	460
8	Cr <sup>6+</sup>	0.026	0.02	0.005	0.053
9	Co	0.019	10.5	2.6	130
10	Cu	0.010	622.5	156	7700
11	Pb	0.061	2.0	0.5	23
12	Mn	0.050	1200	300	15000
13	Hg	0.010	7.5	1.9	94
14	Ni	0.042	75	18.8	930
15	Se	0.147	37.5	9.4	460
16	Sr	0.067	4500	1125	56000
17	Sn	0.110	15000	3750	180000
18	Organic tin	0.120	0.9	0.2	12
19	Zn	0.097	3750	938	46000



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Code	Soluble Element	Results (mg/kg)		
		1	2	3
1	Al	235	N.D.	N.D.
2	Sb	N.D.	N.D.	N.D.
3	As	N.D.	N.D.	N.D.
4	Ba	N.D.	N.D.	N.D.
5	B	N.D.	N.D.	N.D.
6	Cd	N.D.	N.D.	N.D.
7	Cr <sup>3+</sup>	N.D.	N.D.	N.D.
8	Cr <sup>6+</sup>	N.D.	N.D.	N.D.
9	Co	N.D.	N.D.	N.D.
10	Cu	N.D.	311	N.D.
11	Pb	N.D.	N.D.	N.D.
12	Mn	N.D.	N.D.	N.D.
13	Hg	N.D.	N.D.	N.D.
14	Ni	N.D.	705	337
15	Se	N.D.	N.D.	N.D.
16	Sr	N.D.	N.D.	N.D.
17	Sn	N.D.	24	24
18	Organic tin	N.D.	N.D.	N.D.
19	Zn	N.D.	1305	N.D.

**Note:**

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

-Results shown are of the adjusted analytical results

-The migration of organic tin is expressed as tributyltin (TBT). where the tin content exceeded the limit of organic tin, eleven organic tins listed in table were determined by GC-MS and the client should be noted there are other organic tins may be present in toy materials.

Organic tins tested under EN 71-3:2019:

Methyl tin (MeT), Butyl tin (BuT), Dibutyl tin (DBT), Tributyl tin (TBT), Tetrabutyl tin (TeBT), n-Octyl tin (MOT), Di-n-octyl tin (DOT), Di-n-propyl tin (DProT), Diphenyl tin (DPhT), Triphenyl tin (TPhT), Dimethyltin Dimethyl tin (DMT)



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## Photograph of Sample

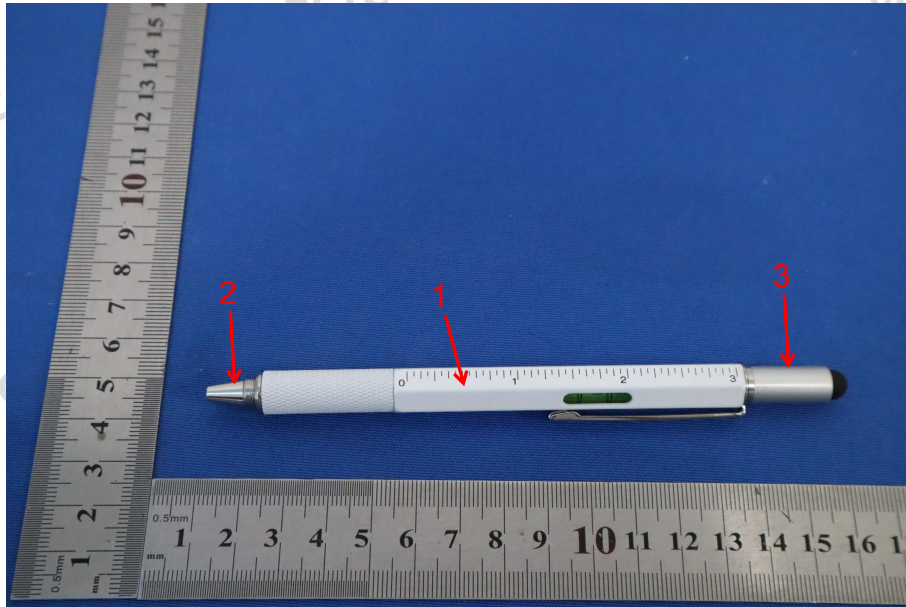


Fig.1



Fig.2



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## STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without stamp of laboratory.
4. The test report is invalid without signature of person(s) testing and authorizing.
5. The test process and test result is only related to the Unit Under Test.
6. The quality system of our laboratory is in accordance with ISO/IEC17025.
7. If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address: BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road,  
Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen, China  
P.C.: 518103

TEL: 400-788-9558

FAX: 0755-33229357

Internet: <http://www.bctc-lab.com>

E-Mail: [bctc@bctc-lab.com.cn](mailto:bctc@bctc-lab.com.cn)

\*\*\*\*\* END OF REPORT \*\*\*\*\*

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**Additional type / model** : P136A, P248, P248A, P196, P249, P189, P195, P200, P198, P207, P191, P104, P098, P160, P202, P110, P201, P122, P208, M305A

**Manufacturer** : Shenzhen Jubaopen Stationery & Gift Co., Ltd

**Address** : No.89, 27th Building, The Second industrial Village of Songgang  
Town, Bao'an District, Shenzhen, Guangdong

**Sample received date** : Mar. 10, 2020

**Testing period** : Mar. 10, 2020 - Mar. 16, 2020

**Test requested** :

1. As specified by client, to screen Lead(Pb), Cadmium(Cd), Mercury(Hg), Chromium(Cr) and Bromine(Br) in the submitted sample(s) by XRF.
2. As specified by client, when screening results exceed the XRF screening limit in IEC 62321-3-1:2013, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs) in the submitted samples.
3. As specified by client, to test the Di-isobutyl phthalate(DIBP), Dibutyl phthalate(DBP), Benzyl butyl phthalate(BBP), Bis(2-ethyl(hexyl) phthalate)(DEHP) in the submitted sample(s).

**According to the RoHS Directive 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863**

\*\*\*\*\*For more detailed information, please refer to the next page\*\*\*\*\*

Tested by Ace  
Weicheng Zhang



Approved by Saher Chen  
Hanyao Chen



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**Test Method:**
**A. Screening test by XRF spectroscopy**

XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013.

Element	Screening limits of IEC 62321-3-1:2013. Unit (mg/kg)		MDL	
	Polymers and metals	Composite material	Polymers	Other material
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma)$ $\leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$LOD \leq (50-3\sigma) < X < (150+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma)$ $\leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$	10 mg/kg	50 mg/kg
Br	$BL \leq (300-3\sigma) < X$	$BL \leq (250-3\sigma) < X$	10 mg/kg	50 mg/kg

**Note:**

-BL = Under the XRF screening limit

-OL = Further chemical test will be conducted while result is above the screening limit

-X= The symbol "X" marks the region where further investigation is necessary

-3σ= The reproducibility of analytical instruments

-LOD= Detection limit

-"--" = Not regulated.

**B. Chemical Test**

Test Item(s)	Test Method	Measured Equipment(s)	MDL	Limit
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	2 mg/kg	1000 mg/kg
Hexavalent Chromium Cr(VI)	IEC 62321-7-1:2015 Ed.1.0	UV-VIS	--	1000 mg/kg
	IEC 62321-7-2:2017 Ed.1.0		8 mg/kg	1000 mg/kg
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015 Ed.1.0	HPLC-UV	5 mg/kg	1000 mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015 Ed.1.0	HPLC-UV	5 mg/kg	1000 mg/kg
Phthalates	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg

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**Test Result(s):**

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
1	White plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
2	Black rubber	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
3	Black rubber ring	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
4	Transparent plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
5	Light green liquid	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
6	White metal shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	



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7	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
8	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
9	Gold metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
10	White metal	Pb	6682	N.D.	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
11	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
12	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
13	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	

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14	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
15	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
16	Silver metal (screwdriver)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	7611	Negative	
		Br(PBBs&PBDEs)	/	/	

Tested Item(s)	Results				
	Unit (mg/kg)				
	1	2	3	4	5
Diisobutyl phthalate (DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.
Butyl benzyl phthalate (BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.
Bis(2-ethylhexyl) phthalate (DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.	N.D.



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**Note:**

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- “ / ”= Not conducted.
- Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.1 $\mu\text{g}/\text{cm}^2$  with 50 $\text{cm}^2$  sample surface area used.
- Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than 0.13 $\mu\text{g}/\text{cm}^2$  with 50 $\text{cm}^2$  sample surface area used.

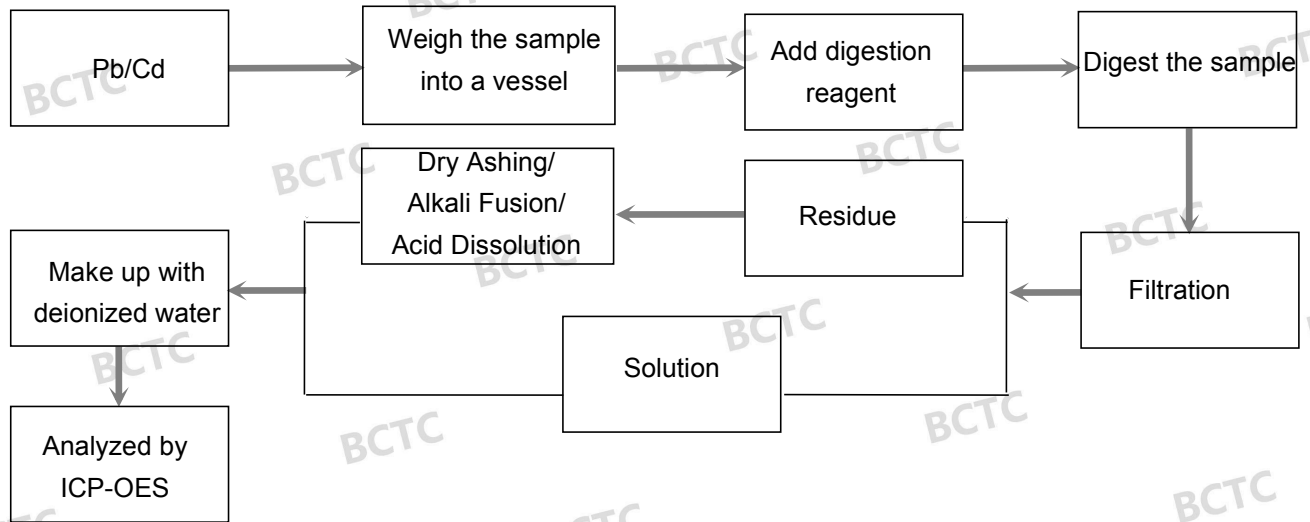
**Remark:**

- The screening results are only used for reference.
- When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.

**Test Process:**

The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

◆IEC 62321-5:2013 Ed.1.0

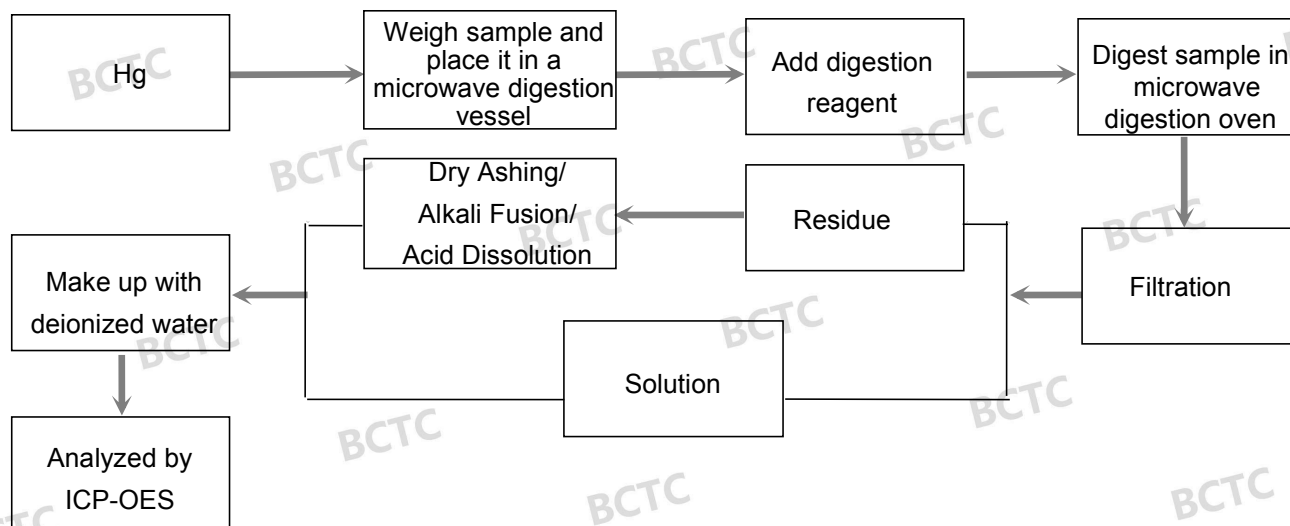


# Test Report

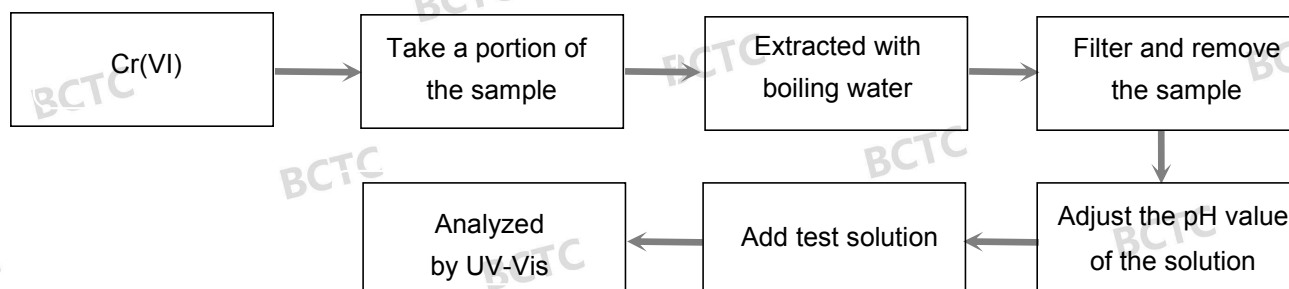
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◆ IEC 62321-4:2013+AMD1:2017



◆ IEC 62321-7-1:2015 Ed.1.0



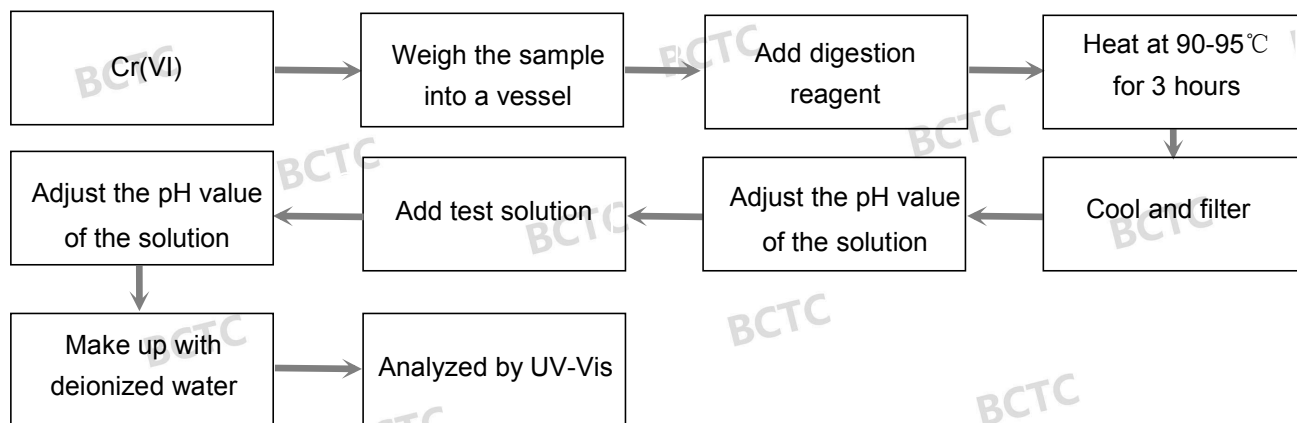


# Test Report

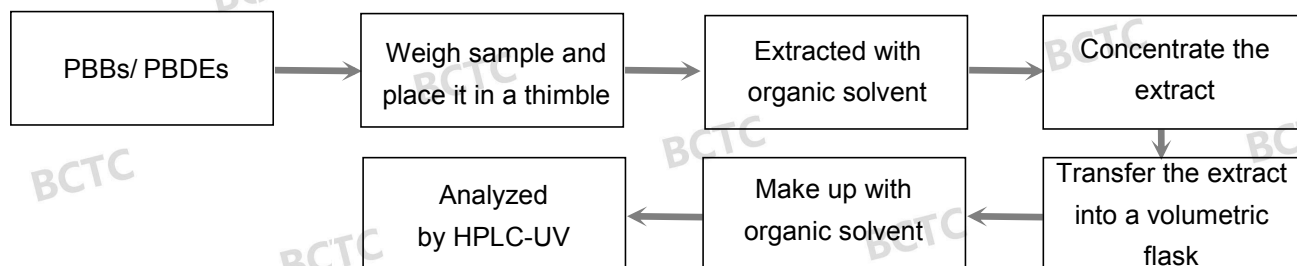
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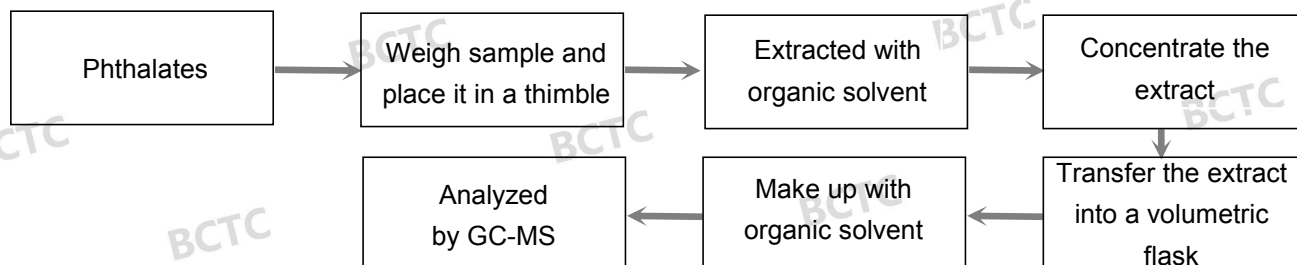
◆ IEC 62321-7-2:2017 Ed.1.0



◆ IEC 62321-6:2015 Ed.1.0



◆ IEC 62321-8:2017 Ed.1.0





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## Photograph of Sample



Fig.1



Fig.2





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## Photo(s) of the tested component(s)

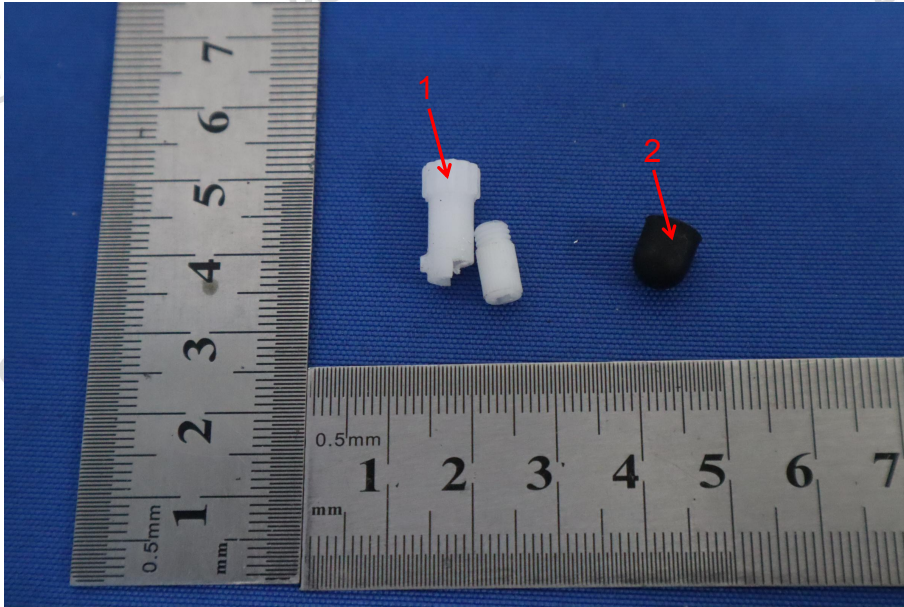


Fig.3

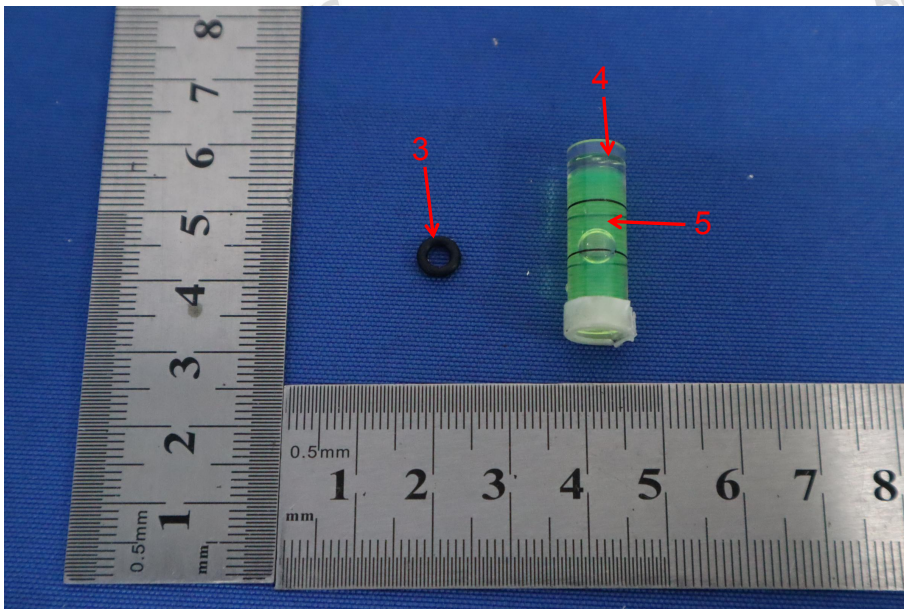


Fig.4



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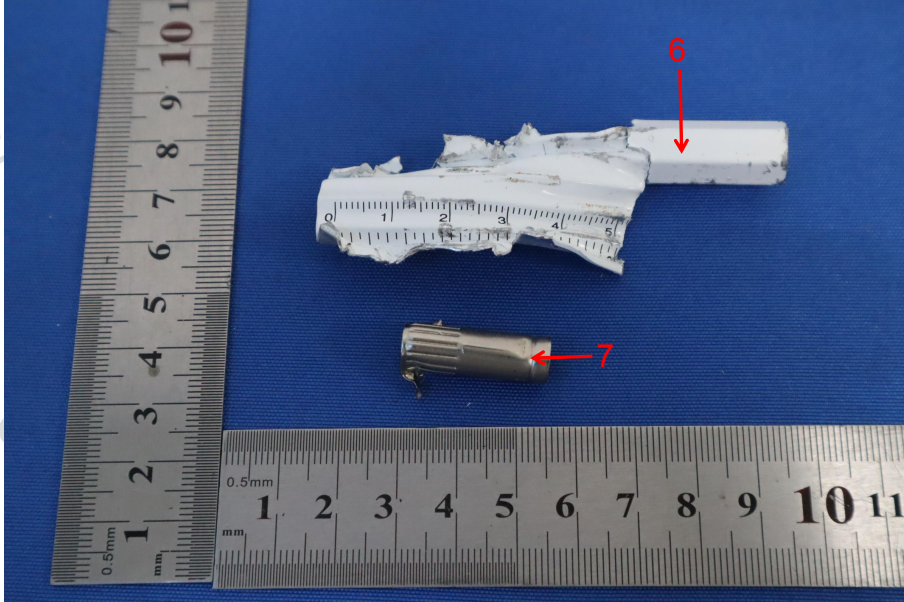


Fig.5

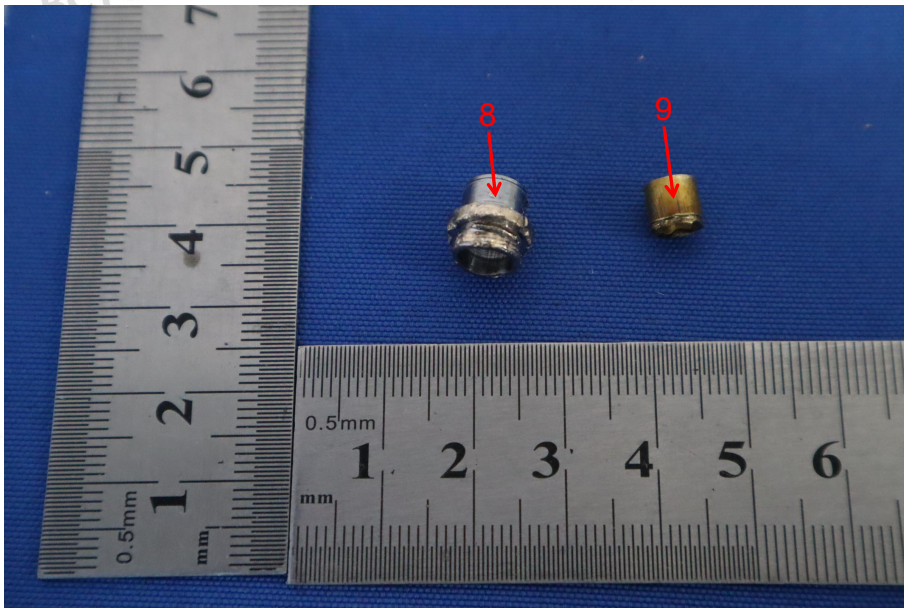


Fig.6



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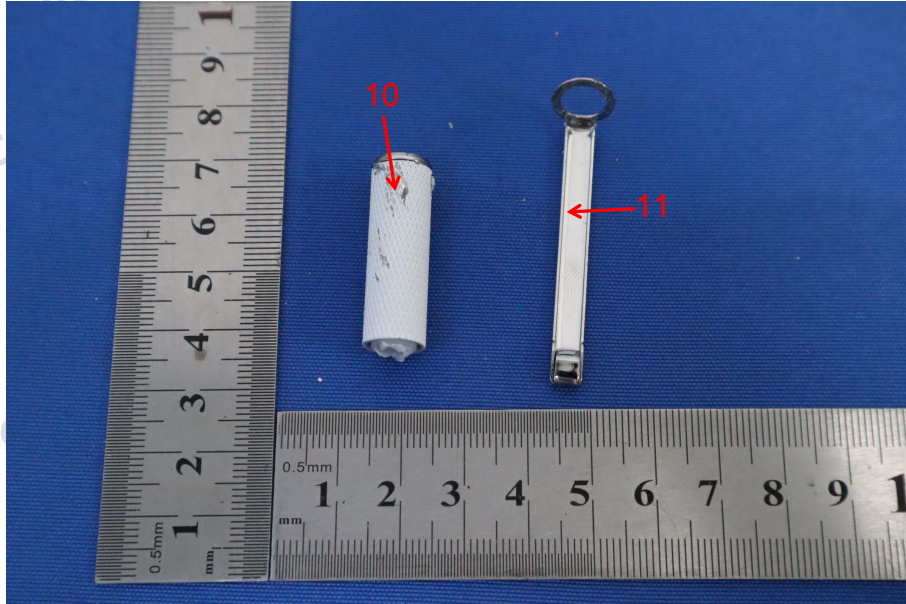


Fig.7

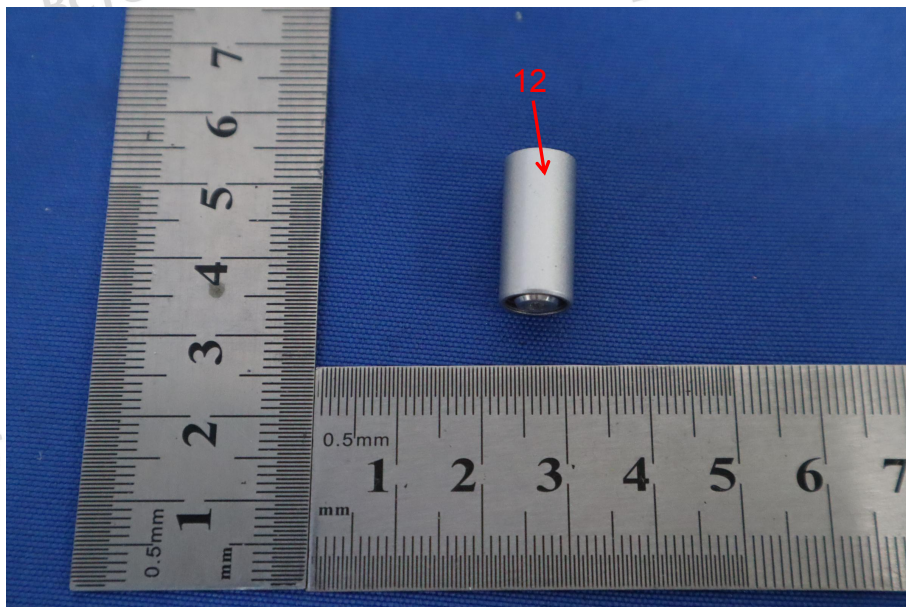


Fig.8



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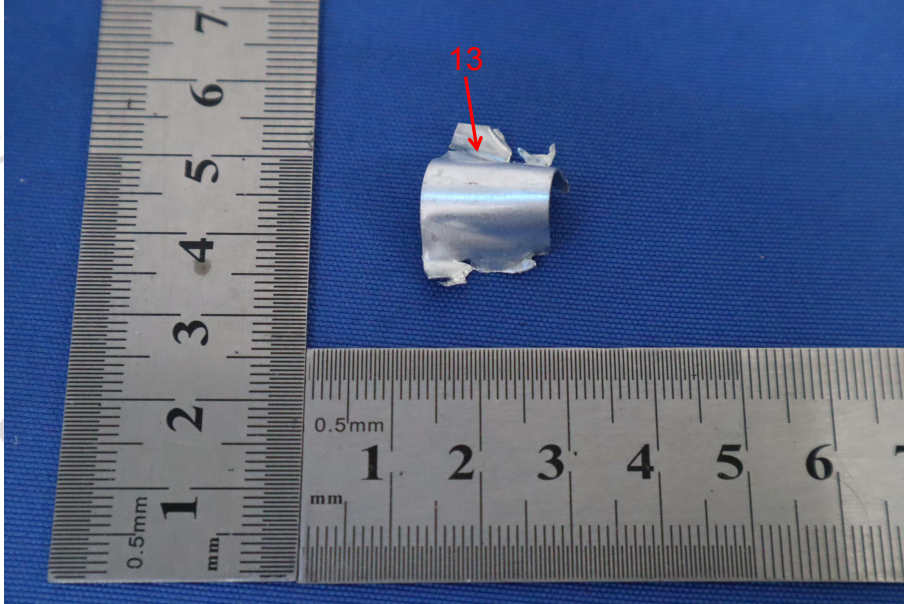


Fig.9

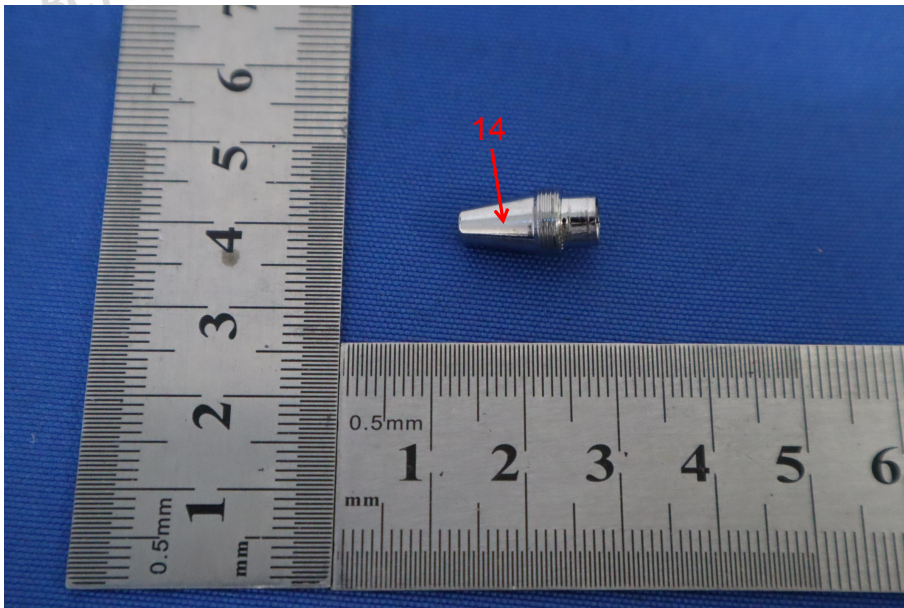


Fig.10



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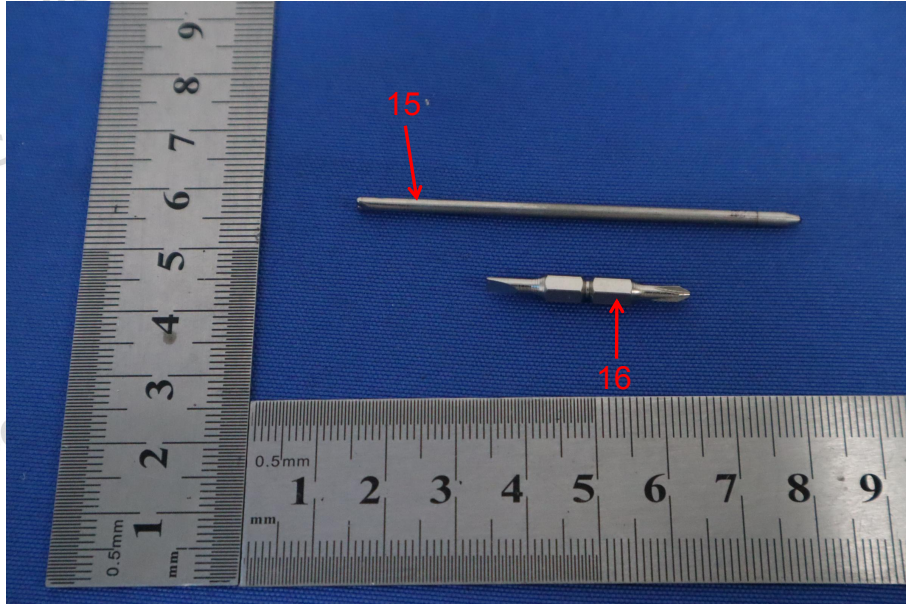


Fig.11

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## STATEMENT

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4. The test report is invalid without signature of person(s) testing and authorizing.
5. The test process and test result is only related to the Unit Under Test.
6. The quality system of our laboratory is in accordance with ISO/IEC17025.
7. If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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TEL: 400-788-9558

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E-Mail: [bctc@bctc-lab.com.cn](mailto:bctc@bctc-lab.com.cn)

\*\*\*\*\* END OF REPORT \*\*\*\*\*