

# TEST REPORT

NO.: A001T140305209001

Date: Apr 02, 2014

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**Applicant:** TONGLU Penda import and export co., Ltd/Changzhou Penda international trading co., Ltd

**Address:** Dongguan industrial zone, Fenshui town, TONGLU County , Hangzhou , China

**Report on the submitted sample said to be**

**Sample name:** Balpen

**Model:** 3015

**Country of Origin:** CHINA

**Country of Destination:** EURORE

**Sample received date:** Mar 05, 2014

**Testing period:** From Mar 05, 2014 to Apr 02, 2014

Test Requested:	Conclusion
(1) For compliance with the 2009/48/EC & Commission directive 2012/7/EC European Standard on Safety of Toys :efer to EN 71-3:2013, test migration of certain elements	Pass
(2): As specified by client, to determine the Cadmium(Cd) content in the submitted sample in accordance with Regulation (EC) No 1907/2006 Annex XVII entry 23, and its amended regulation (EU) No 494/2011 and (EU) No 835/2012.	Pass
(3): As specified by client, to determine the DEHP、DBP、BBP、DINP、DNOP and DIDP content in the submitted sample in accordance with Annex XVII Item No. 51 & 52 of REACH Regulation (EC) 1907/2006.	Pass

**Results:** Please refer to next page

\*\*\*\*\*FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)\*\*\*\*\*

Signed for and on behalf of  
Shenzhen AOV Testing Technology Co., Ltd



Tested by: Jay  
Luo Jin Liang, Jay  
Project Leader

Reviewed by: Joyce  
Han Cheng Mei, Joyce  
Report Team Leader

Approved by: Irwin  
Dong Yuan Jia, Irwin  
Laboratory Supervisor

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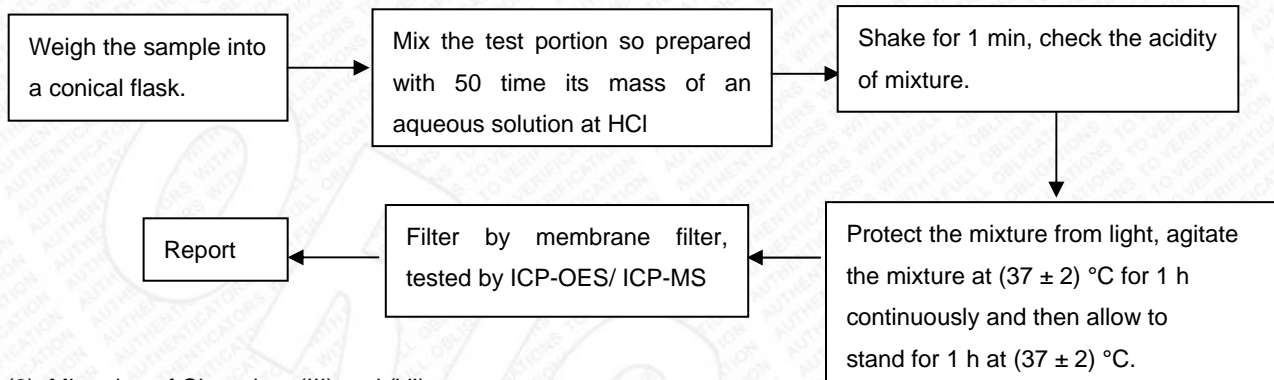
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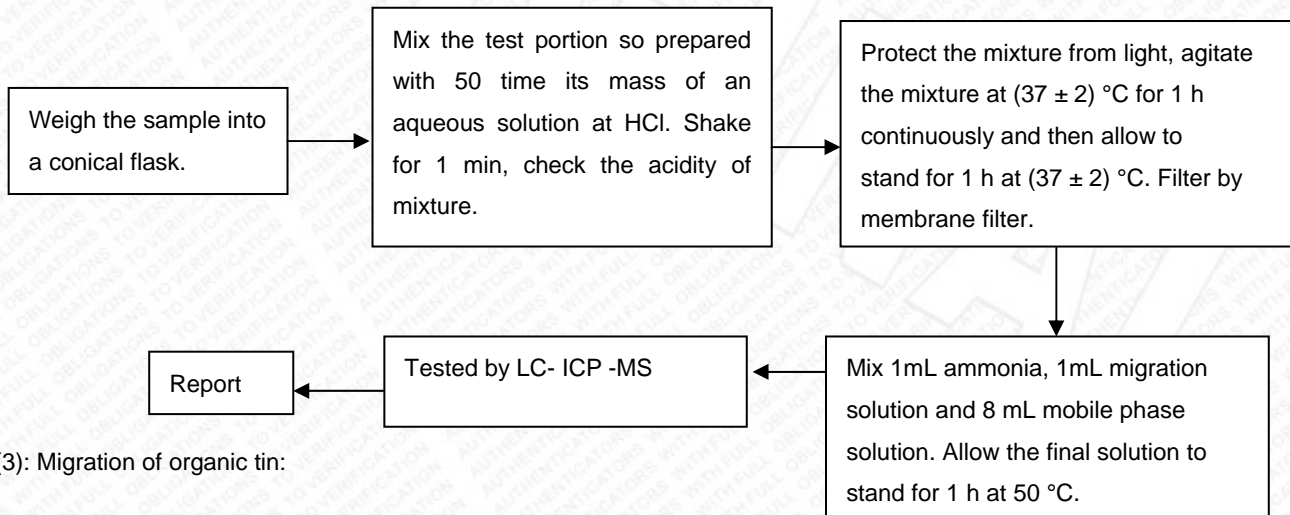
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## Test Flow:

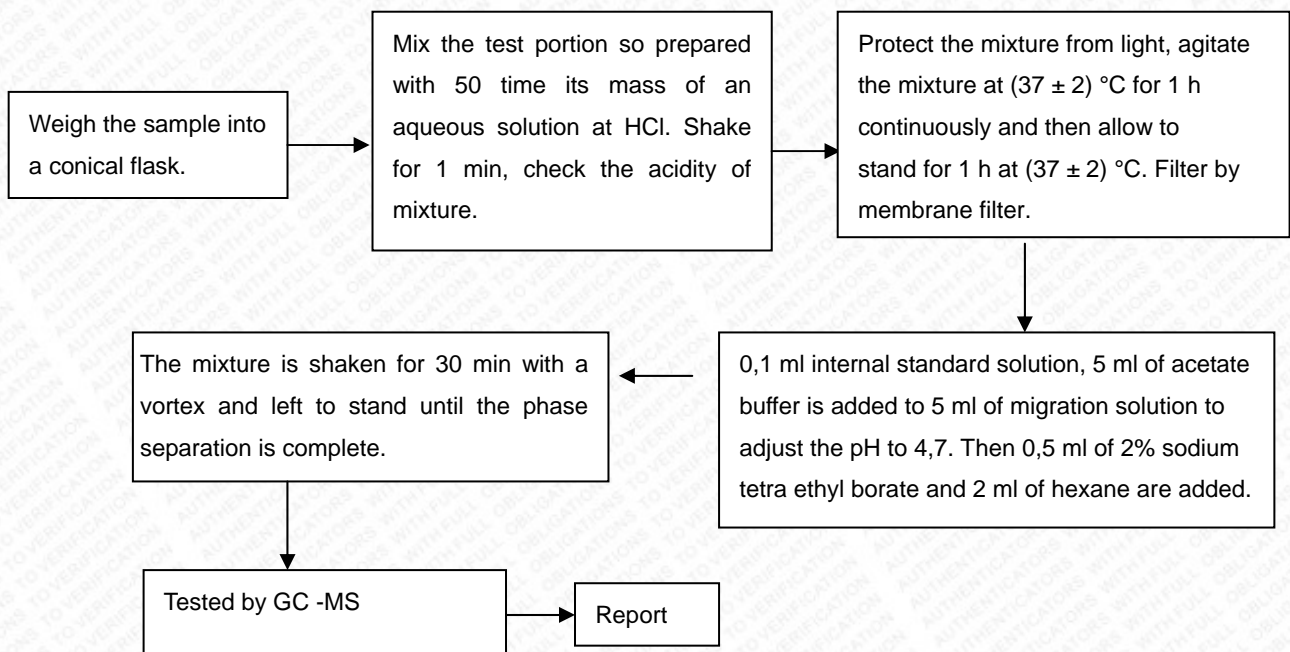
(1): Migration of general elements:



(2): Migration of Chromium (III) and (VI):



(3): Migration of organic tin:



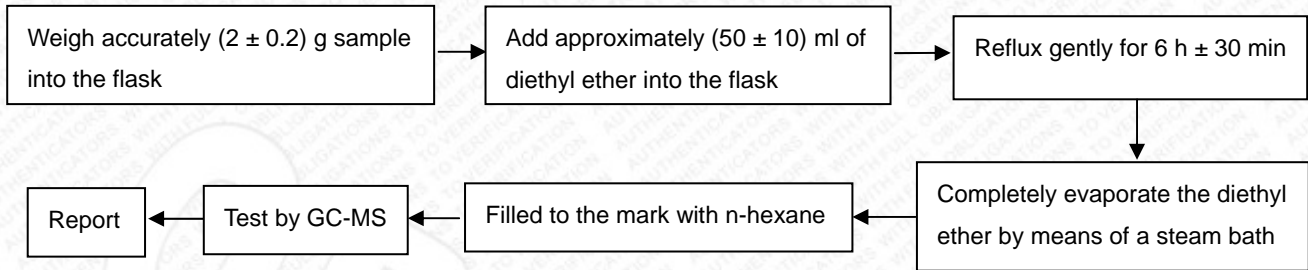
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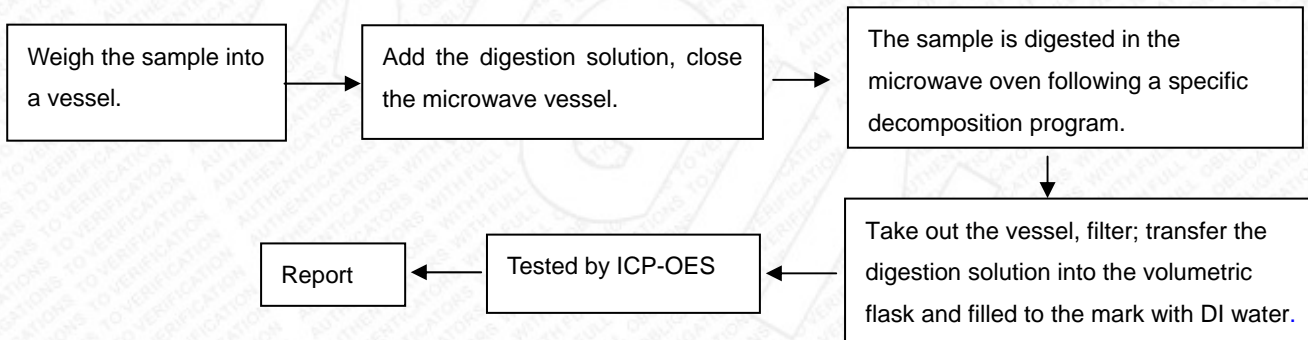
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(4): To Determine DEHP、DBP、BBP、DINP、DNOP and DIDP content:



(5): To Determine Cadmium Content:



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**Results:**
**1. EN 71-3:2013:The test instrument, limit of detection and limit requirements of migration of certain elements.**

Code	Soluble Element	Measuring instrument	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	ICP-MS	0.073	5625	1406	70000
2	Sb	ICP-MS	0.014	45	11.3	60
3	As	ICP-MS	0.027	3.8	0.9	25
4	Ba	ICP-MS	0.027	1500	375	1000
5	B	ICP-MS	0.039	1200	300	15000
6	Cd	ICP-MS	0.059	1.3	0.3	17
7	Cr III	LC-ICP-MS	0.064	37.5	9.4	460
8	Cr VI	LC-ICP-MS	0.023	0.02	0.005	0.2
9	Co	ICP-MS	0.019	10.5	2.6	130
10	Cu	ICP-MS	0.010	622.5	156	7700
11	Pb	ICP-MS	0.061	13.5	3.4	90
12	Mn	ICP-MS	0.050	1200	300	15000
13	Hg	ICP-MS	0.010	7.5	1.9	60
14	Ni	ICP-MS	0.042	75	18.8	930
15	Se	ICP-MS	0.147	37.5	9.4	460
16	Sr	ICP-MS	0.067	4500	1125	56000
17	Sn	ICP-MS	0.110	15000	3750	180000
18	Organic tin	GC-MS	0.120	0.9	0.2	12
19	Zn	ICP-MS	0.097	3750	938	46000

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**EN 71-3:2013: The result of migration of certain elements.**

Code	Soluble Element	Unit	Test Results	Test Results	Test Results	Test Results	Test Results
			2	3	4	5	6
			Category III	Category III	Category III	Category III	Category III
1	Al	mg/kg	2.1	N.D.	5.4	0.8	0.5
2	Sb	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
3	As	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
4	Ba	mg/kg	1.8	N.D.	1.9	0.6	N.D.
5	B	mg/kg	0.5	N.D.	0.4	N.D.	N.D.
6	Cd	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
7	Cr III	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
8	Cr VI	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
9	Co	mg/kg	1.2	0.6	2.7	N.D.	N.D.
10	Cu	mg/kg	972.5	0.6	1594.2	3.1	1.3
11	Pb	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
12	Mn	mg/kg	N.D.	1.4	1.1	N.D.	N.D.
13	Hg	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
14	Ni	mg/kg	122.6	3.2	213.9	1.4	N.D.
15	Se	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
16	Sr	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
17	Sn	mg/kg	15.5	9.5	18.4	N.D.	N.D.
18	Organic tin	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.
19	Zn	mg/kg	1.5	0.5	21.1	0.6	0.4
Conclusion (P/N)			P	P	P	P	P

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Code	Soluble Element	Unit	Test Results	Test Results	Test Results	Test Results	Test Results	Test Results
			7	8	9	10	11	12
			Category III	Category III	Category III	Category III	Category III	Category III
1	Al	mg/kg	1.3	0.6	1.1	0.9	0.8	N.D.
2	Sb	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3	As	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4	Ba	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
5	B	mg/kg	N.D.	N.D.	N.D.	N.D.	0.5	N.D.
6	Cd	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
7	Cr III	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
8	Cr VI	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
9	Co	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10	Cu	mg/kg	1.9	1.3	1.2	3.4	1.1	0.9
11	Pb	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
12	Mn	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
13	Hg	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
14	Ni	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
15	Se	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
16	Sr	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
17	Sn	mg/kg	0.6	0.5	0.5	0.6	0.6	0.4
18	Organic tin	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
19	Zn	mg/kg	1.3	0.9	1.4	1.1	1.2	0.5
Conclusion (P/N)			P	P	P	P	P	P

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Code	Soluble Element	Unit	Test Results
			26
			Category III
1	Al	mg/kg	1.8
2	Sb	mg/kg	N.D.
3	As	mg/kg	N.D.
4	Ba	mg/kg	0.4
5	B	mg/kg	0.6
6	Cd	mg/kg	N.D.
7	Cr III	mg/kg	N.D.
8	Cr VI	mg/kg	N.D.
9	Co	mg/kg	N.D.
10	Cu	mg/kg	3.5
11	Pb	mg/kg	N.D.
12	Mn	mg/kg	N.D.
13	Hg	mg/kg	N.D.
14	Ni	mg/kg	N.D.
15	Se	mg/kg	N.D.
16	Sr	mg/kg	N.D.
17	Sn	mg/kg	3.6
18	Organic tin	mg/kg	N.D.
19	Zn	mg/kg	5.1
Conclusion (P/N)			P

**Note:**

- unit: mg/kg=ppm
- P=Pass, N=Not Pass
- N.D.=Not Detected(<LOD)
- LOD= Limit of Detection

**2. Cadmium(Cd) content**

Pretreatment Method: EN1122: 2001 Measuring Instrument: ICP-OES MDL:2 mg/kg

Item	Unit	Limit	Result					
			1	2	3	4	5	6
Cadmium	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Item	Unit	Limit	Result					
			7	8	9	10	11	12
Cadmium	mg/kg	100	N.D.	N.D.	7	N.D.	N.D.	N.D.

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Item	Unit	Limit	Result					
			13	14	15	16	17	18
Cadmium	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Item	Unit	Limit	Result					
			19	20	21	22	23	24
Cadmium	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Item	Unit	Limit	Result	
			25	26
Cadmium	mg/kg	100	9	N.D.

### 3. DEHP、DBP、BBP、DINP、DNOP and DIDP content

Pretreatment Method: US EPA 3540C:1996, US EPA 8270D:2007

Measuring Instrument: GC-MS

Item	CAS No.	Unit	MDL	Limit	Result	Result	Result
					2	5	6
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg	30	/	70	N.D.	N.D.
Dibutyl phthalate (DBP)	84-74-2	mg/kg	30	/	N.D.	N.D.	N.D.
Benzyl butyl phthalate (BBP)	85-68-7	mg/kg	30	/	N.D.	N.D.	N.D.
Total (DEHP+ DBP+ BBP)	/	mg/kg	/	1000	70	N.D.	N.D.
Di-iso-nonyl phthalate (DINP)	28553-12-0 68515-48-0	mg/kg	50	/	N.D.	N.D.	N.D.
Di-n-octyl phthalate (DNOP)	117-84-0	mg/kg	30	/	N.D.	N.D.	N.D.
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	mg/kg	50	/	N.D.	N.D.	N.D.
Total (DINP+DNOP+DIDP)	/	mg/kg	/	1000	N.D.	N.D.	N.D.

Item	CAS No.	Limit	Result	Result	Result	Result	Result
			7	8	9	10	11
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	/	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP)	84-74-2	/	N.D.	N.D.	N.D.	N.D.	N.D.
Benzyl butyl phthalate (BBP)	85-68-7	/	N.D.	N.D.	N.D.	N.D.	N.D.
Total (DEHP+ DBP+ BBP)	/	1000	N.D.	N.D.	N.D.	N.D.	N.D.
Di-iso-nonyl phthalate (DINP)	28553-12-0 68515-48-0	/	N.D.	N.D.	N.D.	N.D.	N.D.
Di-n-octyl phthalate (DNOP)	117-84-0	/	N.D.	N.D.	N.D.	N.D.	N.D.
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	/	N.D.	N.D.	N.D.	N.D.	N.D.
Total (DINP+DNOP+DIDP)	/	1000	N.D.	N.D.	N.D.	N.D.	N.D.



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Item	CAS No.	Limit	Result	Result	Result	Result	Result
			12	13	14	15	16
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	/	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP)	84-74-2	/	N.D.	N.D.	N.D.	N.D.	N.D.
Benzyl butyl phthalate (BBP)	85-68-7	/	N.D.	N.D.	N.D.	N.D.	N.D.
Total (DEHP+ DBP+ BBP)	/	1000	N.D.	N.D.	N.D.	N.D.	N.D.
Di-iso-nonyl phthalate (DINP)	28553-12-0 68515-48-0	/	N.D.	N.D.	N.D.	N.D.	N.D.
Di-n-octyl phthalate (DNOP)	117-84-0	/	N.D.	N.D.	N.D.	N.D.	N.D.
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	/	N.D.	N.D.	N.D.	N.D.	N.D.
Total (DINP+DNOP+DIDP)	/	1000	N.D.	N.D.	N.D.	N.D.	N.D.

Item	CAS No.	Limit	Result	Result	Result	Result
			17	18	19	20
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	/	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP)	84-74-2	/	N.D.	N.D.	N.D.	N.D.
Benzyl butyl phthalate (BBP)	85-68-7	/	N.D.	N.D.	N.D.	N.D.
Total (DEHP+ DBP+ BBP)	/	1000	N.D.	N.D.	N.D.	N.D.
Di-iso-nonyl phthalate (DINP)	28553-12-0 68515-48-0	/	N.D.	N.D.	N.D.	N.D.
Di-n-octyl phthalate (DNOP)	117-84-0	/	N.D.	N.D.	N.D.	N.D.
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	/	N.D.	N.D.	N.D.	N.D.
Total (DINP+DNOP+DIDP)	/	1000	N.D.	N.D.	N.D.	N.D.

### Specimen Description:

No.	Sample description	No.	Sample description
1	PEN-HEAD AND BUTTON SILVER	14	KNOB PURPLE PLASTIC
2	PEN-HEAD AND BUTTON SUBSTRATE	15	KNOB ORANGE PLASTIC
3	METAL PEN CLIP	16	KNOB YELLOW PLASTIC
4	METAL RING	17	KNOB WHITE PLASTIC
5	PEN TUBE RED PLASTIC	18	KNOB GREEN PLASTIC
6	PEN TUBE PURPLE PLASTIC	19	KNOB BLUE PLASTIC
7	PEN TUBE ORANGE PLASTIC	20	KNOB BLACK PLASTIC
8	PEN TUBE YELLOW PLASTIC	21	INNER GREY PLASTIC TUBE
9	PEN TUBE WHITE PLASTIC	22	INNER GREY PLASTIC
10	PEN TUBE GREEN PLASTIC	23	WHITE PLASTIC PEN CORE PIPE
11	PEN TUBE BLUE PLASTIC	24	GOLDEN SPRING
12	PEN TUBE BLACK PLASTIC	25	METAL PEN SHARP
13	KNOB RED PLASTIC	26	BLUE INK

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**Note:**

- Specimens, which requested to determine Cadmium Content, have been dissolved completely.
- mg/kg=ppm.
- N.D.=not detected(<MDL)
- MDL=Method Detection Limit
- Photo is included

**Photograph of Sample**



Balpen

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