

RoHS Consolidated Test

Applicant : Shenzhen Aoweisi Technology Co., Ltd.
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Manufacturer : Shenzhen Aoweisi Technology Co., Ltd.
Address : Room 201, Building 2, Jinxing Industrial Park, Huachang Road, Langkou Community, Dalang Street, Longhua New District, Shenzhen

SAMPLE INFORMATION

Sample name : Intelligent mosquito repellent
Model No. : M1
Serial No. : M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15, M16, M17, M18, M19, M20
Trademark : N/A

TEST INFORMATION

Date of Receipt : 2019-05-23
Date of Test : 2019-05-23 to 2019-05-28
Results : Please refer to next page(s).
Test Items : **PASS**

TEST REQUEST

A EU RoHS Directive 2011/65/EU & (EU)2015/863 and its amendment directives

Tim Chen

Test/Witness Engineer



Results:

A. EU RoHS Directive 2011/65/EU & (EU)2015/863 and its amendment directives on XRF

Test method: With reference to IEC 62321-3-1: 2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
A	Intelligent mosquito repellent					
1	Shell	BL	BL	BL	BL	BL
2	Switch Button	BL	BL	BL	BL	BL
3	PCB	BL	BL	BL	BL	BL
4	Chip Resistor	BL	BL	BL	BL	BL
5	Chip Capacitors	BL	BL	BL	BL	BL
6	SMD crystal	BL	BL	BL	BL	BL
7	Wire	BL	BL	BL	BL	BL
8	Ink	BL	BL	BL	BL	BL
9	Iron	BL	BL	BL	BL	BL
10	USB Interface	BL	BL	BL	BL	BL
11	Solder	BL	BL	BL	BL	BL
12	Nickel Plating	BL	BL	BL	BL	BL
13	Copper Wire	BL	BL	BL	BL	BL

Note:

- BL = Below Limit
- OL = Over Limit
- X = Inconclusive

- ii The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
- iii The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2011/65/EU & (EU)2015/863:

Disclaimers:

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(VI))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenylethers (PBDEs)	1000

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

B. The Test Results of Chemical Method:

Test method:

Lead & Cadmium Content:

With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-AES)

Mercury Content:

With reference to IEC 62321-4:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-AES)

Hexavalent Chromium Content:

With reference to IEC 62321-7-1:2015, by alkaline digestion and analysis was performed by UV-visible spectrophotometer (UV-Vis)

PBBs & PBDEs Content:

With reference to IEC 62321-6: 2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

Note:

- Negative = Absence of Cr(VI) on the tested areas
- MDL = Method Detection Limit
- mg/kg = ppm
- ** = Spot-test:

Negative = Absence of Cr(VI) coating/ surface layer, Positive = Presence of Cr(VI) coating/ surface layer;

(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 Cr(VI) coating/ surface layer, Positive = Presence of Cr(VI) coating/ surface layer;

(The detected concentration in boiling- water-extraction solution is equal or greater than 0.02 mg/kg with 50cm sample surface areas.)

- #=

Positive indicates the presence of Cr(VI) on the tested areas and result be regarded as conflict with RoHS requirement.

Negative indicates the absence of Cr(VI) on the tested areas and result be regarded as no conflict with RoHS requirement.

- #1 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted in glass of cathode ray tubes, electronic components and fluorescent tubes.
- #2 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted in electronic ceramic parts (e.g. piezoelectronic devices).
- #3 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.
- #4 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

2) The test results of PBBs & PBDEs

PBBs	1	2	3	4	5	6	7
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBBs	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PBDEs	1	2	3	4	5	6	7
Monobromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBDEs	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

PBBs	8
Monobromobiphenyl	N.D.
Dibromobiphenyl	N.D.
Tribromobiphenyl	N.D.
Tetrabromobiphenyl	N.D.
Pentabromobiphenyl	N.D.
Hexabromobiphenyl	N.D.
Heptabromobiphenyl	N.D.
Octabromobiphenyl	N.D.
Nonabromobiphenyl	N.D.
Decabromobiphenyl	N.D.
Sum of PBBs	N.D.
PBDEs	8
Monobromodiphenyl Ether	N.D.
Dibromodiphenyl Ether	N.D.
Tribromodiphenyl Ether	N.D.
Tetrabromodiphenyl Ether	N.D.
Pentabromodiphenyl Ether	N.D.
Hexabromodiphenyl Ether	N.D.
Heptabromodiphenyl Ether	N.D.
Octabromodiphenyl Ether	N.D.
Nonabromodiphenyl Ether	N.D.
Decabromodiphenyl Ether	N.D.
Sum of PBDEs	N.D.

- ◆ PBBs Limit = 1000 ppm, PBDEs Limit = 1000 ppm.
- ◆ “ N.D. ” means “ Not Detected ”, method detection limit = 5mg/kg.

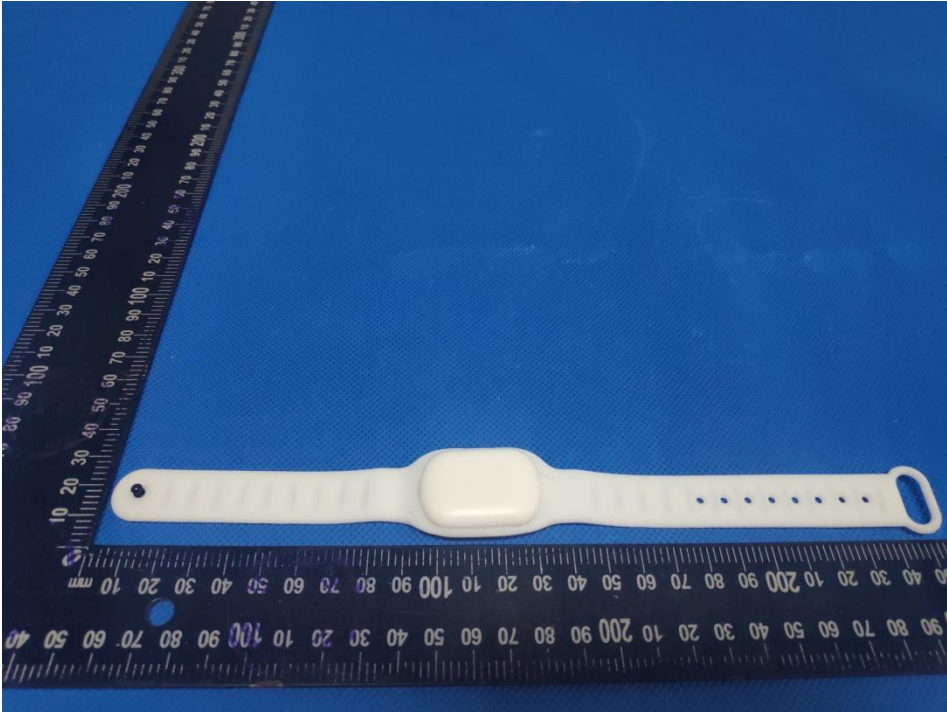
3) The test results of DBP & BBP & DEHP & DIBP

Phthalate	1	2	3	4	5	6
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Diisobutyl Phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromoniphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Phthalate	7	8
Dibutyl Phthalate (DBP)	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	N.D.	N.D.
Bis(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.
Diisobutyl Phthalate (DIBP)	N.D.	N.D.
Pentabromoniphenyl	N.D.	N.D.

Appendix

Photograph of Sample



END OF REPORT