BASIC INFORMATION	
Type of Product	ARRAY LED
Supplier Company Name	EVERLIGHT
Address	NO.6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN
Tel / Fax / Email	TEL:886-2685-6688 FAX:886-2685-6699 E-MAIL: lindawang@everlight.com
Contact Person	LI LING WANG
EVERLIGHT REPORT NO	EVERLIGHT-ARRAY LED (LAMP) SERIES Sampling Product : A203B/SYG/S530-E2-SGS-11-Jan-2021
PRODUCT INFORMATION	
Product/component Sample description	
Quantity (numbers or weight)	
	ZS20120844HF
Country of Origin	CHINA
TEST INFORMATION	
Sample preparation	CUTTING
Test Method	RoHS: IEC 62321, Halogen: BS EN 14582
MDL	Cd, Pb, Hg: 2 mg/kg, PBBs/PBDEs: 5 mg/kg, Halogen: 50 mg/kg
(Sample Submitted By) :	(EVERLIGHT ELECTRONICS CO., LTD.)

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PIN CODE: BDB31DBF

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

(Test Requested : (1) RoHS 2011/65/EU Annex II (EU) 2015/863 , DBP, BBP, DEHP, DIBP (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

(2) PAHs (As specified by client, to test PAHs and other item(s).)

(Conclusion) : (1) , DBP, BBP, DEHP, DIBP RoHS 2011/65/EU Annex II (EU) 2015/863 (Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)

(2) (AfPS) GS PAHs 3 (Based upon the performed tests on the submitted sample(s), the test results of PAHs (15 items) comply with the limits of PAHs requirement (Category 3) Other consumer products as set by German Committee on Product Safety (AfPS) GS PAHs.)

(Test Part Description)

No.1 : (BODY)
No.2 : (BLACK PLASTIC)
No.3 : (PLATING LAYER OF SILVER COLORED METAL)
No.4 : (SILVER COLORED METAL (INCLUDING THE PLATING LAYER))
No.5 : ( ) (SILVER COLORED METAL (INCLUDING THE PLATING LAYER))

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

(Test Results)

(Test Items)	(Method)	(Unit)	MDL	(Result)			(Limit)
				No.1	No.2	No.3	
(Cd) (Cadmium (Cd)) (CAS No.: 7440-43-9)	IEC 62321-5: 2013 (With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	n.d.	---	100
(Pb) (Lead (Pb)) (CAS No.: 7439-92-1)		mg/kg	2	n.d.	n.d.	---	1000
(Hg) (Mercury (Hg)) (CAS No.: 7439-97-6)	IEC 62321-4: 2013+ AMD1: 2017 (With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	n.d.	---	1000
(Cd) (Cadmium (Cd)) (CAS No.: 7440-43-9)	IEC 62321-5: 2013 (IEC 62321-5: 2013 application of modified digestion by surface etching, analysis was performed by ICP-OES.)	mg/kg	2	---	---	n.d.	100
(Pb) (Lead (Pb)) (CAS No.: 7439-92-1)		mg/kg	2	---	---	50.9	1000
(Hg) (Mercury (Hg)) (CAS No.: 7439-97-6)	IEC 62321-4: 2013+ AMD1: 2017 (IEC 62321-4: 2013+AMD1: 2017 application of modified digestion by surface etching, analysis was performed by ICP-OES.)	mg/kg	2	---	---	n.d.	1000
Cr(VI) (Hexavalent Chromium Cr(VI)) (CAS No.: 18540-29-9)	IEC 62321-7-2: 2017 - (With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.)	mg/kg	8	n.d.	n.d.	---	1000

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

(Test Items)	(Method)	(Unit)	MDL	(Result)			(Limit)
				No.1	No.2	No.3	
(Hexavalent Chromium) Cr(VI) (CAS No.: 18540-29-9) (#2)	IEC 62321-7-1: 2015 - (With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	µg/cm²	0.1	---	---	n.d.	-
(Monobromobiphenyl)	IEC 62321-6: 2015 / (With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	n.d.	---	-
(Dibromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Tribromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Tetrabromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Pentabromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Hexabromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Heptabromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Octabromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Nonabromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Decabromobiphenyl)		mg/kg	5	n.d.	n.d.	---	-
(Sum of PBBs)		mg/kg	-	n.d.	n.d.	---	1000
(Monobromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Dibromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Tribromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Tetrabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Pentabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Hexabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Heptabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Octabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Nonabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Decabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	---	-
(Sum of PBDEs)		mg/kg	-	n.d.	n.d.	---	1000

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

(Test Items)	(Method)	(Unit)	MDL	(Result)			(Limit)
				No.1	No.2	No.3	
(BBP) (Butyl benzyl phthalate (BBP)) (CAS No.: 85-68-7)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	1000
(DBP) (Dibutyl phthalate (DBP)) (CAS No.: 84-74-2)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	1000
(2-) (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP)) (CAS No.: 117-81-7)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	1000
(DIBP) (Diisobutyl phthalate (DIBP)) (CAS No.: 84-69-5)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	1000
(DIDP) (Diisodecyl phthalate (DIDP)) (CAS No.: 26761-40-0, 68515-49-1)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	-
(DINP) (Diisononyl phthalate (DINP)) (CAS No.: 28553-12-0, 68515-48-0)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	-
(DNOP) (Di-n-octyl phthalate (DNOP)) (CAS No.: 117-84-0)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	-
(DNPP) (Di-n-pentyl phthalate (DNPP)) (CAS No.: 131-18-0)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	-
(DNHP) (Di-n-hexyl phthalate (DNHP)) (CAS No.: 84-75-3)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	-
(2-) (DMEP) (Bis(2-methoxyethyl) phthalate (DMEP)) (CAS No.: 117-82-8)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	---	-

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
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(Test Items)	(Method)	(Unit)	MDL	(Result)			(Limit)
				No.1	No.2	No.3	
(HBCDD) (α- HBCDD, β- HBCDD, γ- HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α- HBCDD, β- HBCDD, γ- HBCDD)) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	IEC 62321: 2008 / (With reference to IEC 62321: 2008, analysis was performed by GC/MS.)	mg/kg	5	n.d.	n.d.	---	-
(F) (Fluorine (F)) (CAS No.: 14762-94-8)	BS EN 14582: 2016 (With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.	n.d.	---	-
(Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)	BS EN 14582: 2016 (With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	644	239	---	-
(Br) (Bromine (Br)) (CAS No.: 10097-32-2)	BS EN 14582: 2016 (With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.	n.d.	---	-
(I) (Iodine (I)) (CAS No.: 14362-44-8)	BS EN 14582: 2016 (With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.	n.d.	---	-
(PFOS and its salts) (CAS No.: 1763-23-1 and its salts)	CEN/TS 15968: 2010 (With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	n.d.	---	-
(PFOA and its salts) (CAS No.: 335-67-1 and its salts)	CEN/TS 15968: 2010 (With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	n.d.	---	-
(Be) (Beryllium (Be)) (CAS No.: 7440-41-7)	US EPA 3052: 1996 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	n.d.	---	-

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
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(Method)	(Unit)	MDL	No.1	No.2	No.3	(Limit)
	mg/kg	0.2	n.d.	n.d.	---	-
	mg/kg	0.2	n.d.	n.d.	---	-
	mg/kg	0.2	n.d.	n.d.	---	-
	mg/kg	0.2	n.d.	n.d.	---	-
	mg/kg	0.2	n.d.	n.d.		

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
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(Test Items)	(Method)	(Unit)	MDL	(Result)		(Limit)
				No.4	No.5	
(Cd) (Cadmium (Cd)) (CAS No.: 7440-43-9)	IEC 62321-5: 2013 (With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	---	100
(Pb) (Lead (Pb)) (CAS No.: 7439-92-1)		mg/kg	2	n.d.	---	1000
(Hg) (Mercury (Hg)) (CAS No.: 7439-97-6)	IEC 62321-4: 2013+ AMD1: 2017 (With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	---	1000
(Hexavalent Chromium) Cr(VI) (CAS No.: 18540-29-9) (#2)	IEC 62321-7-1: 2015 - (With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	µg/cm²	0.1	n.d.	---	-
(Be) (Beryllium (Be)) (CAS No.: 7440-41-7)	US EPA 3050B: 1996 (With reference to US EPA 3050B: 1996, analysis was performed by ICP-OES.)	mg/kg	2	---	n.d.	-

(Note)

1. mg/kg = ppm 0.1wt% = 1000ppm
2. MDL = Method Detection Limit ( )
3. n.d. = Not Detected ( ) ; MDL / Less than MDL
4. "-" = Not Regulated ( )
5. "---" = Not Conducted ( )
6. (#2) =
   a. 0.13 µg/cm² . / The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm². The sample coating is considered to contain Cr(VI).
   b. n.d. (0.10 µg/cm²) . / The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 µg/cm²). The coating is considered a non-Cr(VI) based coating
   c. 0.10 0.13 µg/cm² . / The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.
7. (The statement of compliance conformity is based on comparison of testing results and limits.)

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
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Δ (AfPS): GS PAHs

AfPS (German commission for Product Safety): GS PAHs requirements

	1 (Category 1)	2 (Category 2)	3 (Category 3)
(Parameter)	(30) 2009/48/EC 3 (Materials intended to be placed in the mouth, or materials in toys (Directive 2009/48/EC) or articles		

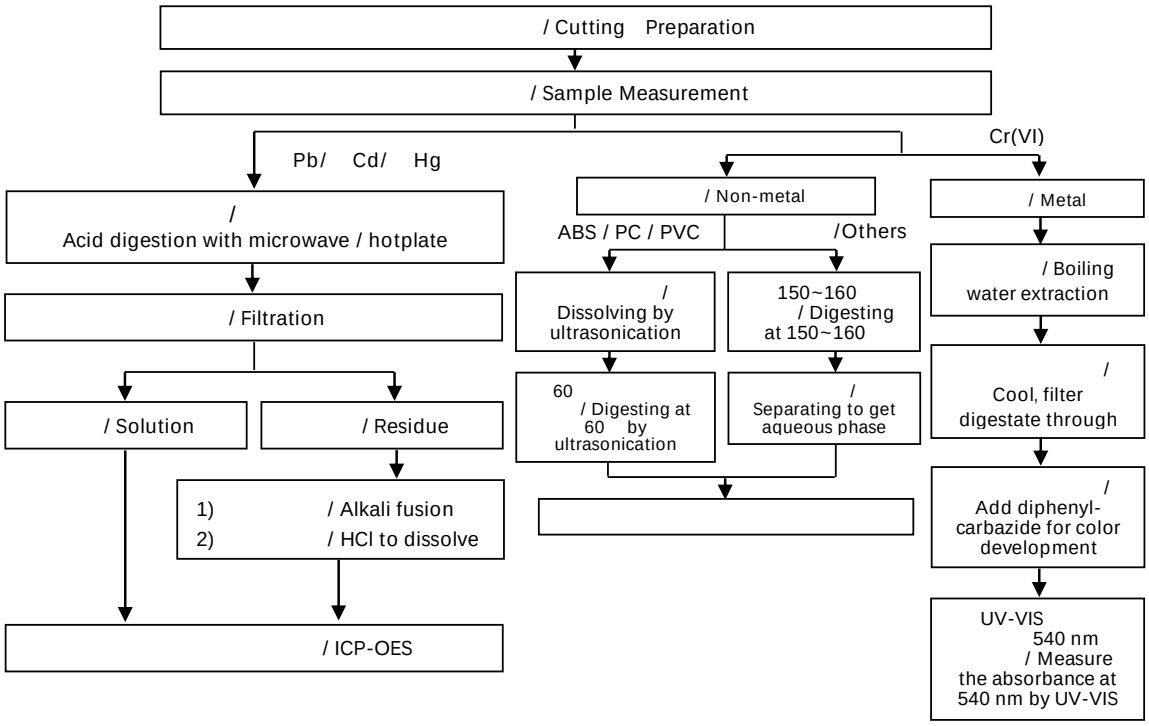
Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

No.1, 2, 4

/ Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart.
Cr^{6+} test method excluded



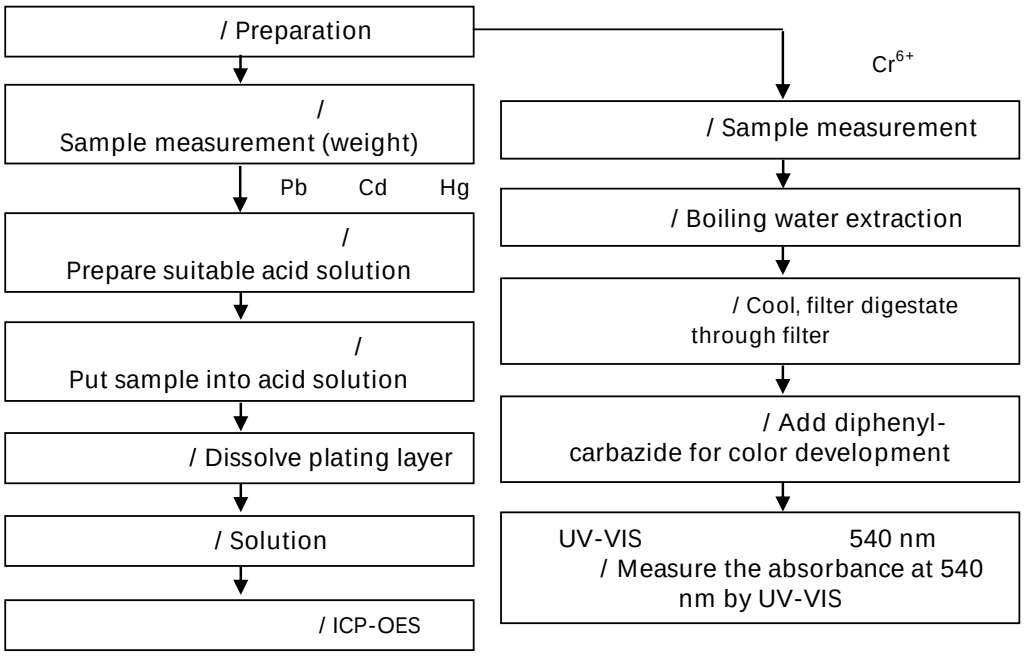
Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

No.3

/ Flow Chart of Stripping method for metal analysis

/ The plating layer of samples were dissolved totally by pre-conditioning method according to below flow chart. Cr^{6+} test method excluded



(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

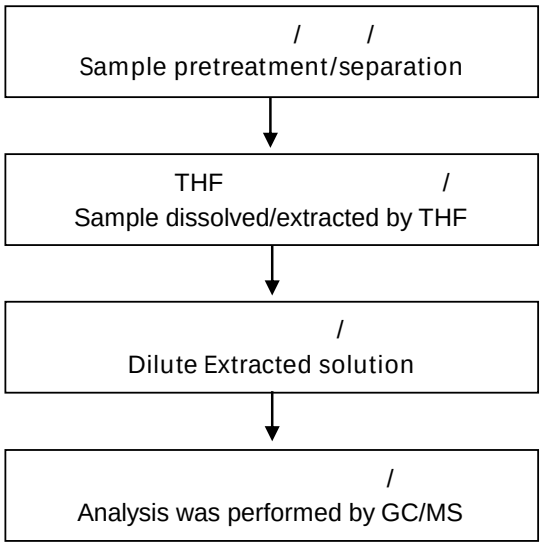
/ / Analytical flow chart - PBBs/PBDEs

/ First testing process

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

/ Analytical flow chart - Phthalate

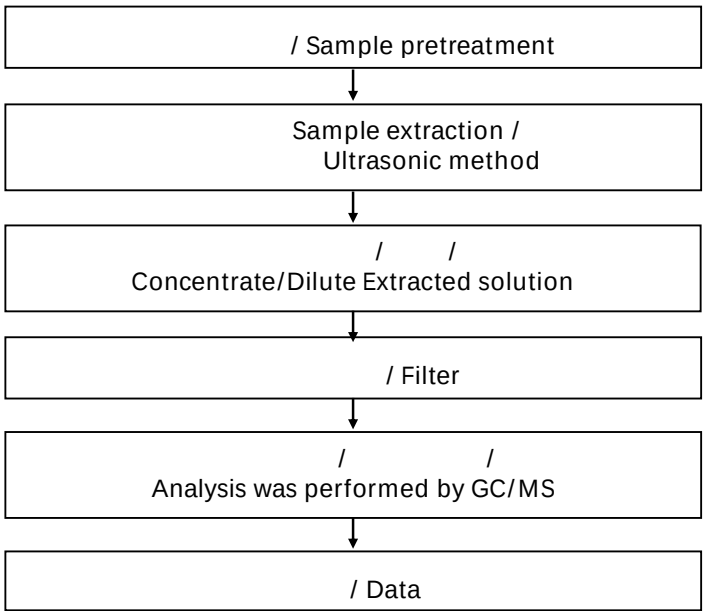
/Test method: IEC 62321-8



Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

/ Analytical flow chart - HBCDD



Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
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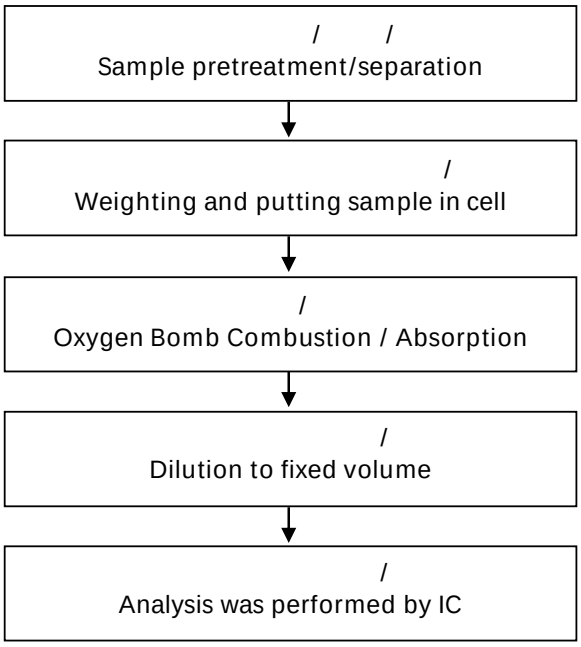
/ Analytical flow chart - Halogen



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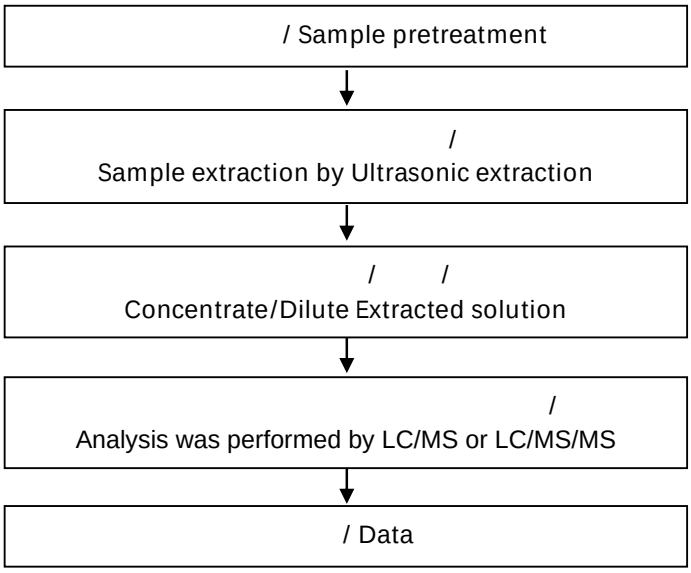
/ / Analytical flow chart - PFOA/PFOS

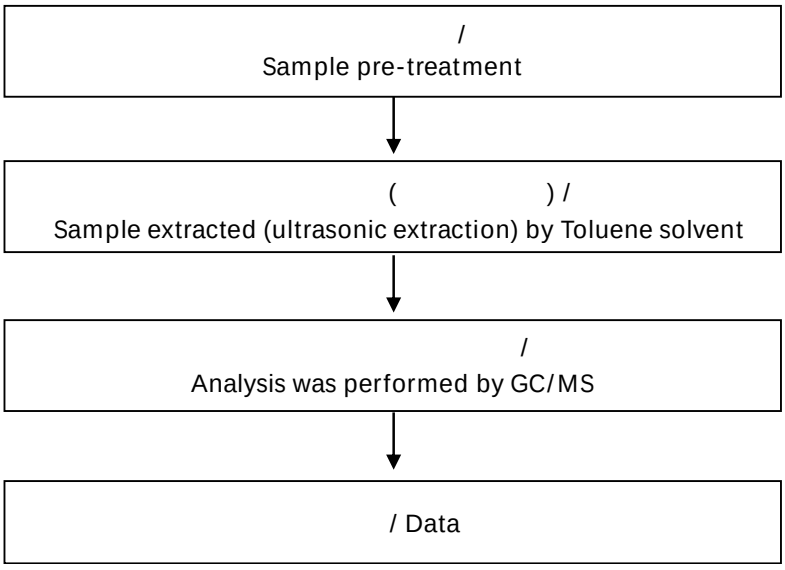


Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

/

Analytical flow chart - PAHs (Polycyclic Aromatic Hydrocarbons)



Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
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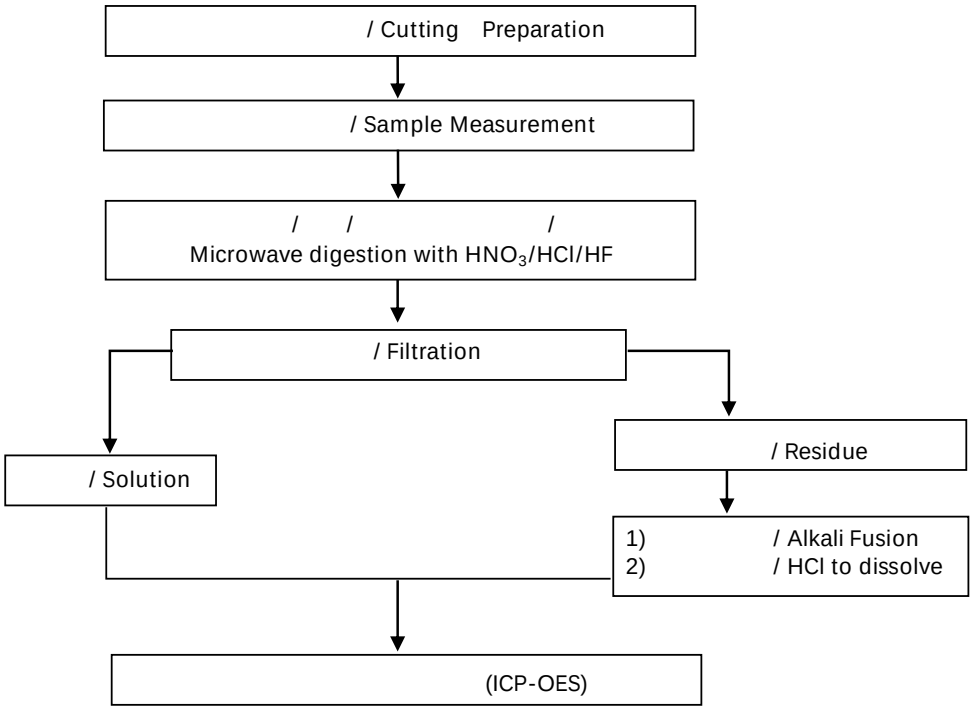
/ Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart.

/Reference method US EPA 3051A US EPA 3052



* US EPA 3051A / US EPA 3051A method does not add HF.

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
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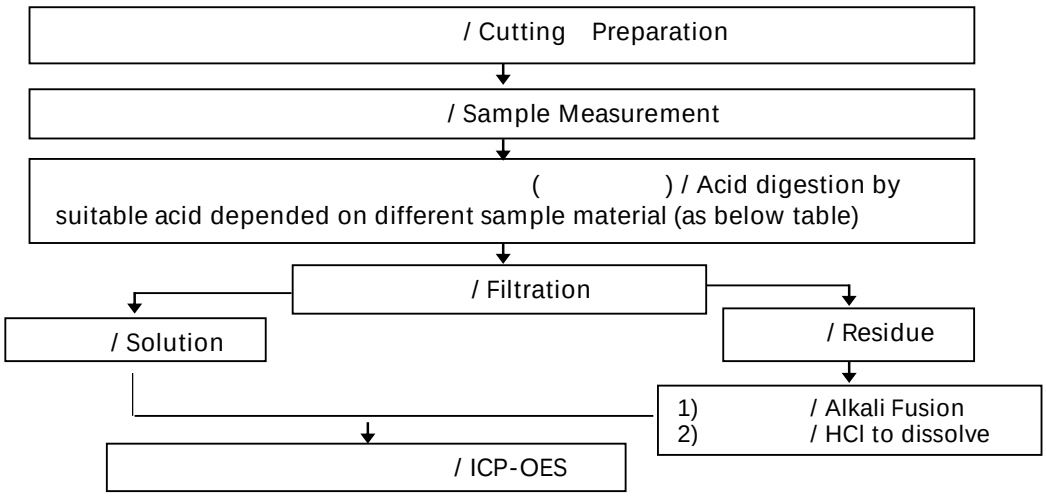
ICP-OES

(Flow Chart of digestion for the elements analysis performed by ICP-OES)

/ These samples were dissolved totally by pre-conditioning method according to below flow chart.



, , , / Steel, copper, aluminum, solder	, , , , / Aqua regia, HNO_3, HCl, HF, H_2O_2
/ Glass	, / HNO_3/HF
, , , / Gold, platinum, palladium, ceramic	/ Aqua regia
/ Silver	/ HNO_3
/ Plastic	, , , / H_2SO_4, H_2O_2, HNO_3, HCl
/ Others	/ Added appropriate

Test Report

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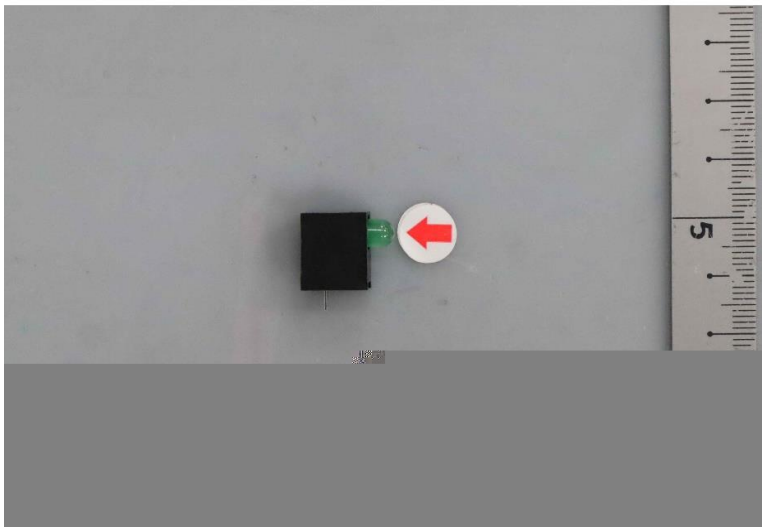
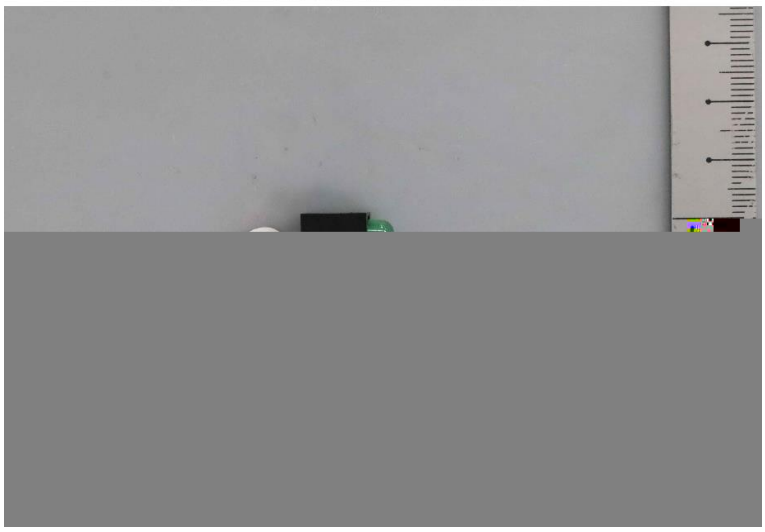
* / . *
(The tested sample / part is marked by an arrow if it's shown on the photo.)

ETR21100379 NO.1



ETR21100379 NO.2



Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

ETR21100379_NO.3

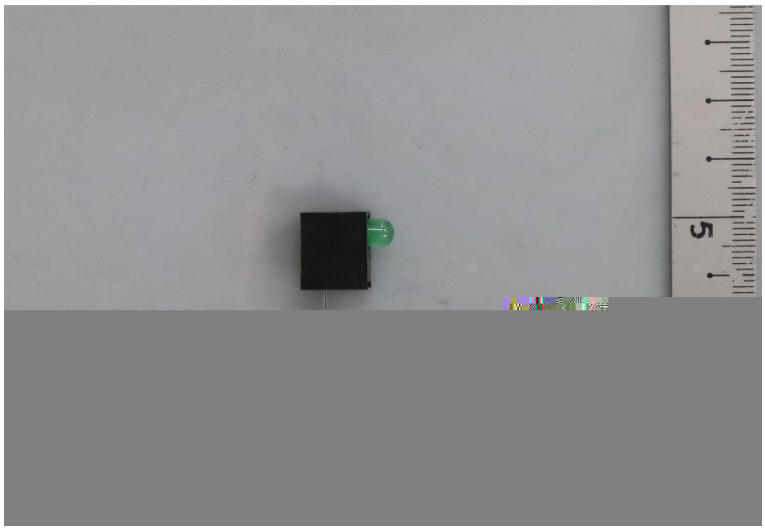
[redacted]

[redacted]

Test Report

(EVERLIGHT ELECTRONICS CO., LTD.)
6-8 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

ETR21100379 NO.5



** (End of Report) **