(No.): ETR24301222 (Date): 15-Mar-2024 (Page): 1 of 19

Test Report

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

(The following sample(s) was/were submitted and identified by the applicant as)

BASIC INFORMATION	
Type of Product	HIGH POWER LED_ELSH
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	HIGH POWER ELSH SERIES Sampling Product : ELSH-F41R1-0LPNM-AR5R6-SGS-15-Mar-2024
PRODUCT INFORMATION	
Product/component Sample description	Automotive exterior lighting
Quantity (numbers or weight)	0.037 g
EVERLIGHT P/N	HIGH POWER ELSH SERIES Sampling Product : ELSH-F41R1-0LPNM-AR5R6
Product Lot No	Y240105A8902VB20W6L
Country of Origin	TAIWAN
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.)

(Sample Receiving Date) : 06-Mar-2024
(Testing Period) : 06-Mar-2024 to 15-Mar-2024

(Test Results) : (Please refer to following pages).

PIN CODE: 83A6C019

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(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).)

: (1)

(2)

No.1 : (TRANSPARENT GLUE)
No.2 : (SILVER-WHITE COLORED SHEET)

(Test Items)	(Method)	(Unit)	MDL	(Result) No.1	(Result) No.2	(Limit)
	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
	IEC 62321-5: 2013 (With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	n.d.	1000

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(Test Items)	(Method)	(Unit)	MDL	(Result)		(Limit)
				No.1	No.2	
(Hg) (Mercury (Hg))	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
Cr(VI) (Hexavalent Chromium Cr(VI))	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
(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

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(Test Items)	(Method)	(Unit)	MDL	(Result)		(Limit)
				No.1	No.2	
(BBP) (Butyl benzyl phthalate (BBP))	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))		mg/kg	50	n.d.	n.d.	1000
(2-) (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.	n.d.	1000
(DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.	n.d.	1000
(DIDP) (Diisodecyl phthalate (DIDP)) (CAS No.: 26761-40-0, 68515-49-1)		mg/kg	50	n.d.	n.d.	-
(DINP) (Diisononyl phthalate (DINP)) (CAS No.: 28553-12-0, 68515-48-0)		mg/kg	50	n.d.	n.d.	-
(DNOP) (Di-n-octyl phthalate (DNOP)) (CAS No.: 117-84-0)		mg/kg	50	n.d.	n.d.	-
(DNPP) (Di-n-pentyl phthalate (DNPP)) (CAS No.: 131-18-0)		mg/kg	50	n.d.	n.d.	-
(DNHP) (Di-n-hexyl phthalate (DNHP)) (CAS No.: 84-75-3)		mg/kg	50	n.d.	n.d.	-
(2-) (DMEP) (Bis(2-methoxyethyl) phthalate (DMEP)) (CAS No.: 117-82-8)		mg/kg	50	n.d.	n.d.	-
(DMP) (Dimethyl phthalate (DMP)) (CAS No.: 131-11-3)		mg/kg	50	n.d.	n.d.	-
(DIOP) (Diisooctyl phthalate (DIOP)) (CAS No.: 27554-26-3)		mg/kg	50	n.d.	n.d.	-

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(Test Items)	(Method)	(Unit)	MDL	(Result)		(Limit)
				No.1	No.2	
(DNNP) (Di-n-nonyl phthalate (DNNP)) (CAS No.: 84-76-4)	IEC 62321-8: 2017 / (With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	-
(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	466	119	-
(Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)		mg/kg	50	n.d.	n.d.	-
(Br) (Bromine (Br)) (CAS No.: 10097-32-2)		mg/kg	50	n.d.	n.d.	-
(I) (Iodine (I)) (CAS No.: 14362-44-8)		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)		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.	-

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(Test Items)	(Method)	(Unit)	MDL	(Result)		(Limit)
				No.1	No.2	
(Polycyclic Aromatic Hydrocarbons) (PAHs)						
(a) (Benzo[a]pyrene) (CAS No.: 50-32-8)	AfPS GS 2019:01 PAK / (With reference to AfPS GS 2019:01 PAK, analysis was performed by GC/MS.)	mg/kg	0.2	n.d.	n.d.	Δ
(e) (Benzo[e]pyrene) (CAS No.: 192-97-2)		mg/kg	0.2	n.d.	n.d.	Δ
(Benzo[a]anthracene) (CAS No.: 56-55-3)		mg/kg	0.2	n.d.	n.d.	Δ
(b) (Benzo[b]fluoranthene) (CAS No.: 205-99-2)		mg/kg	0.2	n.d.	n.d.	Δ
(j) (Benzo[j]fluoranthene) (CAS No.: 205-82-3)		mg/kg	0.2	n.d.	n.d.	Δ
(k) (Benzo[k]fluoranthene) (CAS No.: 207-08-9)		mg/kg	0.2	n.d.	n.d.	Δ
(Chrysene) (CAS No.: 218-01-9)		mg/kg	0.2	n.d.	n.d.	Δ
(Dibenzo[a,h]anthracene) (CAS No.: 53-70-3)		mg/kg	0.2	n.d.	n.d.	Δ
(Benzo[g,h,i]perylene) (CAS No.: 191-24-2)		mg/kg	0.2	n.d.	n.d.	Δ
(Indeno[1,2,3-c,d]pyrene) (CAS No.: 193-39-5)		mg/kg	0.2	n.d.	n.d.	Δ
(Anthracene) (CAS No.: 120-12-7)		mg/kg	0.2	n.d.	n.d.	Δ
(Fluoranthene) (CAS No.: 206-44-0)		mg/kg	0.2	n.d.	n.d.	Δ
(Phenanthrene) (CAS No.: 85-01-8)		mg/kg	0.2	n.d.	n.d.	Δ
(Pyrene) (CAS No.: 129-00-0)		mg/kg	0.2	n.d.	n.d.	Δ
(Naphthalene) (CAS No.: 91-20-3)		mg/kg	0.2	n.d.	n.d.	Δ
15 (Sum of 15 PAHs)		mg/kg	-	n.d.	n.d.	Δ

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(Note)

1. mg/kg = ppm 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit ( )
3. n.d. = Not Detected ( ) ; MDL / Less than MDL
4. "-" = Not Regulated ( )
5. ILAC-G8:09/2019 (w=0)
   (Unless otherwise stated , the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)

Test Report

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PAHs Remark

Δ (AfPS): GS PAHs

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

(Parameter)	1 (Category 1)	2 (Category 2)		3 (Category 3)	
	(30) 2009/48/EC 3 (Materials intended to be placed in the mouth, or materials in toys (Directive 2009/48/EC) or articles for children up to 3 years of age with intended long-term skin contact (> 30 seconds))	1 30 ( ) (Materials that are not in Category 1, with intended or foreseeable long-term skin contact (> 30 seconds) or short-term repetitive contact with the skin)		1 2 30 ( )(Materials not covered by Category 1 or 2, with intended or foreseeable short-term skin contact (30 seconds))	
		a. 14 (Use by children under 14)	b. (Other consumer products)	a. 14 (Use by children under 14)	b. (Other consumer products)
Naphthalene	< 1	< 2		< 10	
Phenanthrene Anthracene Fluoranthene Pyrene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Benzo[a]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[b]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[j]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[k]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[e]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno[1,2,3-c,d] pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo[a,h]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[g,h,i]perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
15 PAH (Sum of 15 PAH)	< 1	< 5	< 10	< 20	< 50

(Unit) mg/kg

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PFAS Remark

PFAS PFAS PFAS
PFAS PFAS
(PFAS PFAS)

(The quantitative technology of PFAS is to analyze the specific structure of PFAS substances. However, PFAS acid and its salts with the same carbon number group have the same specific structure that can be identified. The tested results of the analyzed specific structure cannot be distinguished to identify the contribution from PFAS acid or its salts. Therefore, the tested results display the sum of concentrations of PFAS acids and its salts with the same carbon number group. The concentration of PFAS substances in the below table have been included in the tested results, please refer to the table for relevant information: (The listed PFAS substances are examples only, it do not include all PFAS salts with the same carbon number group.))

(Group Name)	(Substance Name)	CAS No.
PFOS, & (PFOS, its salts & derivatives)	(Perfluorooctane sulfonates) (PFOS)	1763-23-1
	(PFOS-K) Potassium perfluorooctanesulfonate (PFOS-K)	2795-39-3
	(PFOS-Li) Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
	(PFOS-NH_4) Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH_4)	29081-56-9
	(PFOS-$NH(OH)_2$) Perfluorooctane sulfonate diethanolamine salt (PFOS-$NH(OH)_2$)	70225-14-8
	(PFOS-$N(C_2H_5)_4$) Perfluorooctanesulfonic acid,tetraethylammonium salt (PFOS-$N(C_2H_5)_4$)	56773-42-3
	(PFOS-DDA) N-decyl-N,N-dimethyldecan-1-aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctane-1-sulfonate (PFOS-DDA)	251099-16-8

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(Group Name)	(Substance Name)	CAS No.
PFOS, & (PFOS, its salts & derivatives)	(POSF) Perfluorooctane sulfonyl fluoride (POSF)	307-35-7
	(PFOS-Mg) Perfluorooctanesulfonic acid, magnesium salt (PFOS-Mg)	91036-71-4
	(PFOS-Na) Perfluorooctanesulfonic acid, sodium salt (PFOS-Na)	4021-47-0
	Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctanesulfonate	
	(Perfluorooctanoic acid) (PFOA)	335-67-1

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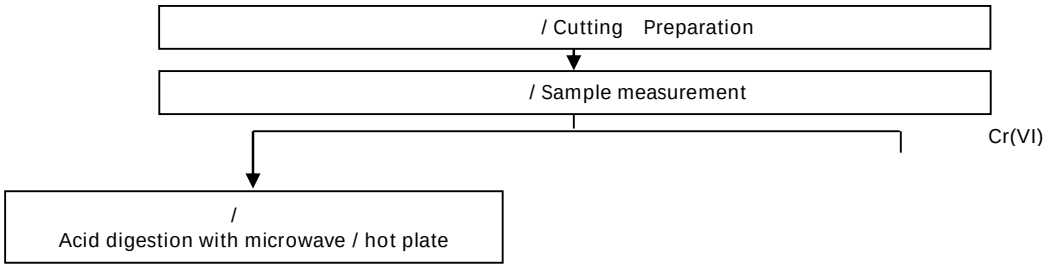
/ Analytical flow chart of heavy metal

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

Cr^{6+} test method excluded



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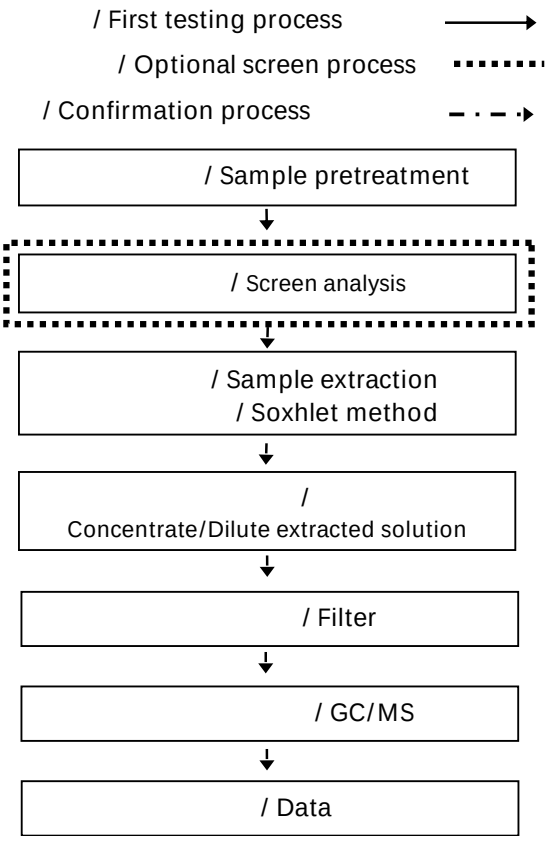
/ / Analytical flow chart - PBBs/PBDEs



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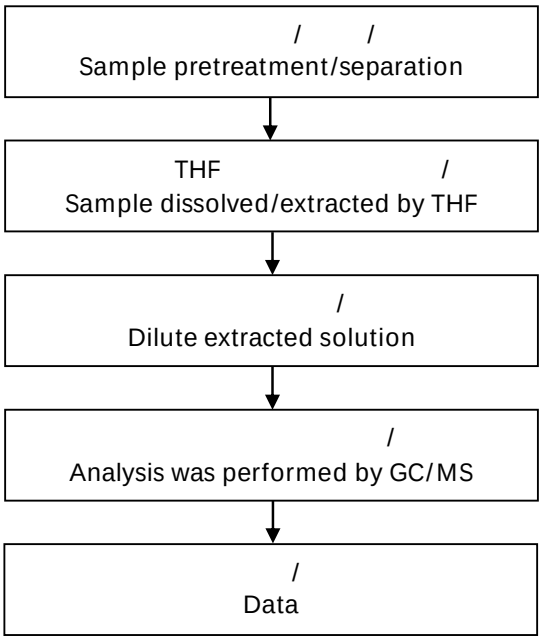
/ Analytical flow chart - Phthalate

/Test method: IEC 62321-8



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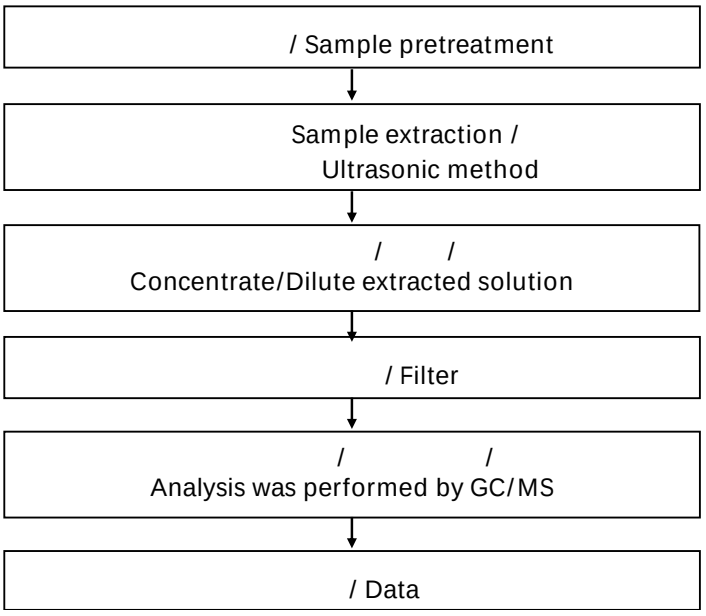
/ Analytical flow chart - HBCDD



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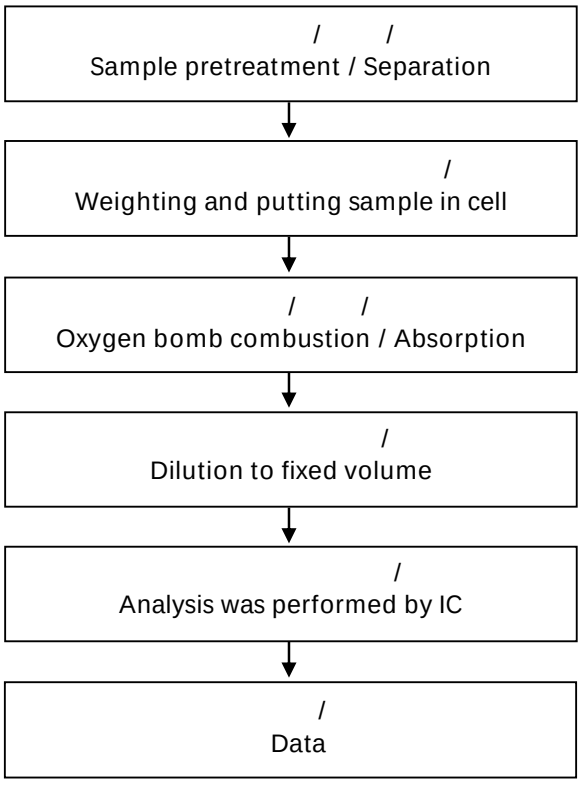
/ Analytical flow chart - Halogen



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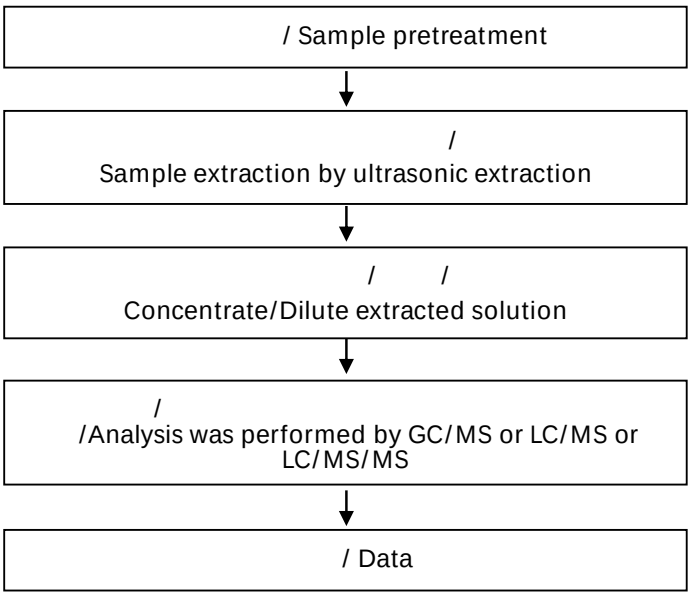
(/ /) / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



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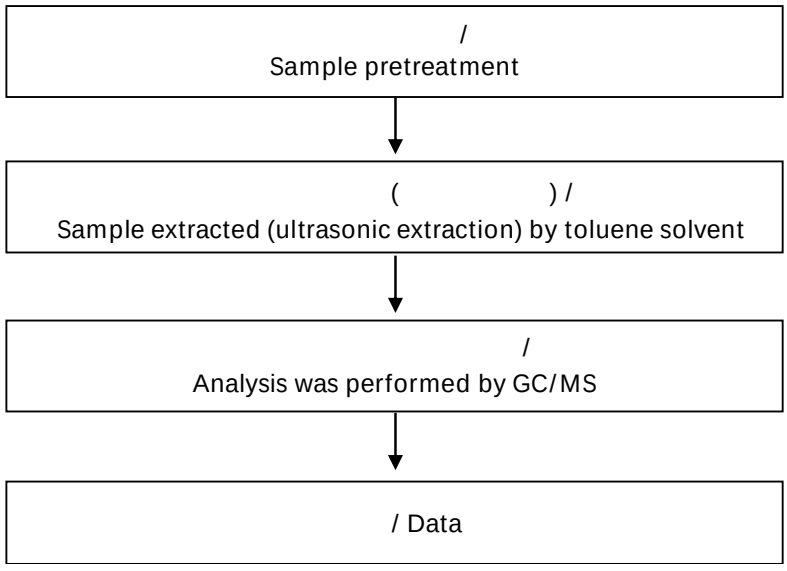
/

Analytical flow chart - PAHs (Polycyclic Aromatic Hydrocarbons)



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( ) / Analytical flow chart of elements (Heavy metal included)

These samples were dissolved totally by pre-conditioning method according to below flow chart.
/Reference method US EPA 3051A US EPA 3052

/ Solution

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

ETR24301222_NO.1

ETR24301222_NO.2

** (End of Report) **