

# 承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N): JK1-230-DA17

品名规格 (PronameSpec): DC-033 中心柱 1.3

送样日期 (Delivery Date): 2022/08/16

承认日期 (Acknowledge Date): 2022/08/16

Approved No:		客 户 Customer	
采 购 部 Purchasing Dept	品 质 部 QC Dept	工 程 部 Engineering Dept	确 认 Approved By
深 圳 市 华 联 威 电 子 科 技 有 限 公 司 SHEN ZHEN SHI HUA LIAN WEI ELECTRONICS TECHNOLOGY CO; LTD.			
业 务 部 Sales Dept	品 管 部 QC Dept	工 程 部 Engineering Dept	核 准 Checked By
吴鑫萍	欠必锋	陈建辉	唐竹君

地址: 深圳市龙华区观澜街道桂香社区观澜桂花路 307 号

TEL: 0755-28888886 28888866

邮箱: hua@hlwconn.com

[Http://www.hlwconn.com](http://www.hlwconn.com)

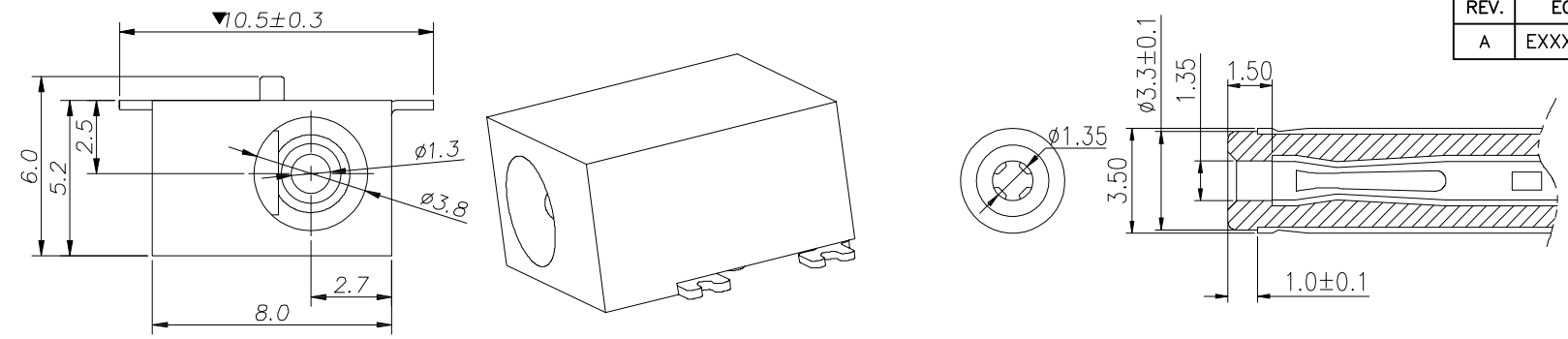


# 目 录

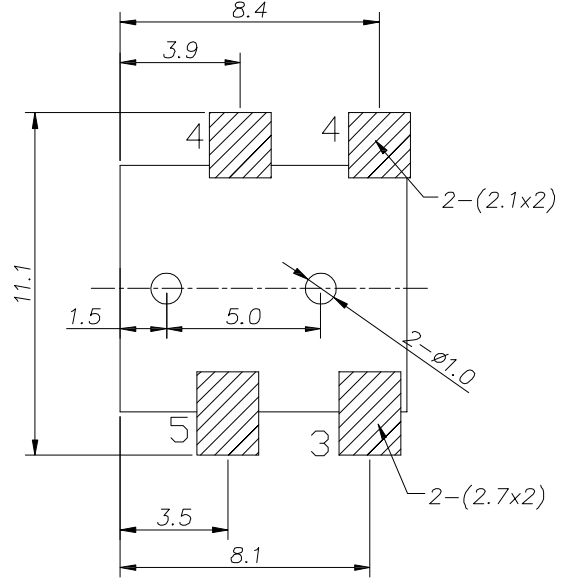
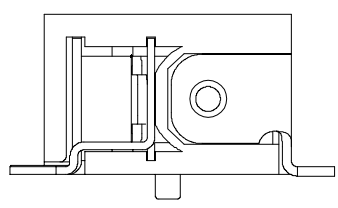
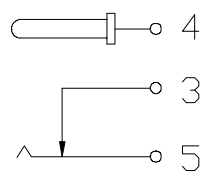
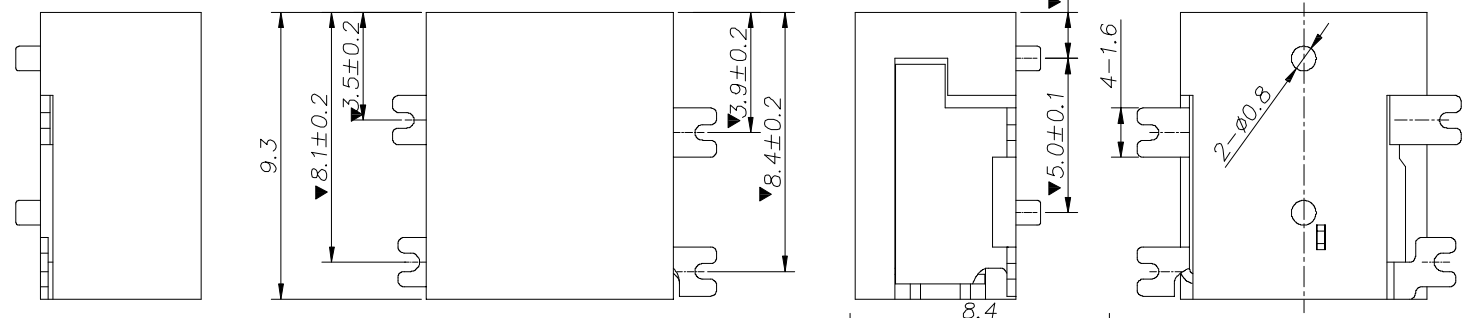
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REV.	ECN.NO.	APPD.
A	EXXXXXXXXXX	yangguifeng



主要技术性能	
额定电负荷	DC 30V\0.5A
接触电阻	≤0.03Ω
绝缘电阻	≥100MΩ
耐压	AC500V(50Hz)/min
插拔力	3-20N
使用温度范围	-30~70℃
使用寿命	5000次



JK1-230-XXX7  
 D: 镀银  
 1: 黑色  
 A: PPA

序号	产品名称	数量	材料	规格	电镀
5	圆针	1	黄铜		镀银
4	插片	1	黄铜	0.25T	镀银
3	平片	1	黄铜	0.3T	镀银
2	弹片	1	磷铜	0.3T	镀银
1	底座	1	PPA(黑色)		

P. C. B LAYOUT TOP VIEW

TOLERANCE UNLESS OTHERWISE SPECIFIED		FLW 深圳市华联威电子科技有限公司			
.XXX ±0.10	.X' ±3'	HUA LIAN WEI TECHNOLOGY ELECTRONICS CO.;LTD.			
.XX ±0.20	.XX' ±2'				
.X ±0.30					
APPROVED		PART NAME:	DC-033 中心柱1.3		
CHECKED		PART No:	JK1-230-DA17	C	
DRAWN	yangguifeng	PROJECTION:	UNIT:	SCALE:	SHEET:
DATE	2021.12.01		mm	1:1	1 OF 1
					REV. A

JACK系列產品SPEC

TEST ITEM		REQUIREMENT	PROCEDURE
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.
2	Operating Temperature	-25°C to 85 °C	
3	Storage Temperature	-25°C to 85 °C	
<b>ELECTRICAL REQUIREMENT</b>			
4	Rating Voltage	12VAC max	on any signal pin with respect to the shield
5	Rating Current	1.0 A per contact	55°C ,maximum ambient 85°C ,maximum temperature change (ANSI/EIA 364-70,TP-70)
6	Contact Resistance	[50] m Ohm Max	Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA Max. EIA-364-23.
7	Dielectric withstanding Voltage	No flashover ,no creeping discharge, no breakdown	500 VAC for 1 minute between adjacent terminals. EIA 364-20
8	Insulation Resistance	[100 ] M Ohm Min.	Mated connector with a voltage of 500V DC for 1 minutes between adjacent terminals EIA 364-21
9	Temperature Rising	30°C Max. Under loaded rating current	Contact series-wired, apply test current of loaded rating current to the circuit, and measure the temperature rising by probing on soldered areas of contacts, after the temperature becomes stabilized deduct ambient temperature from the measured value.
<b>Mechanical Requirement</b>			
10	Connector Mating Force	<u>3.0 kgf Max</u>	Mating the connector with standard audio plug at a rate of 12.7 mm per minute EIA 364-13
11	Connector Unmating Force	<u>0.30~3.0 kgf</u>	Unmating the connector with standard audio plug at a rate of 12.7 mm per minute EIA 364-13

12	Durability	Visual Inspection-No physical damage LLCR-50 mΩ max per contact initial,100 mΩ after 1500 insertions.	Insertion and extraction with plug up to 1500 cycles at a maximum rate of 200 cycles per hour. EIA 364-09
13	Vibration	No discontinuity at 1 μ s or longer(each contact) when continuity is tested per ANSI/EIA-364-46	ANSI/EIA-364-28,Condition III,Method 5A,15 minute/axis
14	Mechanical Shock	No discontinuity at 1 μ s or longer(each contact) when continuity is tested per ANSI/EIA-364-46	ANSI/EIA-364-27 Condition A(specified pulse)
15	Solder ability	At least 95% of the immersed area shall be covered with new solder	1)Temperature of fused solder: 260+5 °C. 2)Dipping time:5+0.5s EIA 364-52
<b>Environmental Requirements</b>			
16	Resistance to Solder Heat	Forming resin shall not be distorted, and terminations shall not be separated.	1) Depth of dipping termination: the distance between the mounting surface and solder surface shall be 1 mm to 2mm. 2)Temperature:245+5°C . 3) Dipping time:10+1s EIA 364-52
17	Thermal Shock	No physical damage to the samples and LLCR-50 mΩ max per contact	Mated connectors exposed to 10 cycles between - 55°C to 85°C, 30 minutes duration at both temperature extremes EIA 364-28
18	Steady State Humidity	No physical damage to the samples and can pass the Dielectric Withstanding Voltage & Insulation Resistance	Expose mated connectors to a temperature of 40±2°C with relative humidity of 90-95% for 168 hours Min(seven complete cycles). Remove surface moisture and air dry for 24 hours EIA 364-28
19	Temperature Life (Heat Aging)	[100 ] M Ohm Min. (insulation reisistance)	ANSI/EIA-364-17 Condition 4 105°C for 250 hours,Method A,mated
20	Salt Spray	Visual Inspection-No physical damageLLCR-50 mΩ max per contact	Mated connector expose to 5% salt concentration for 12 hours at temperature 35+2°C .After the test specimens shall be washed with running water and dried
21	Colour	Colour Atla	284C(Blue) 577C(Green) 701C(Red)
22	Plating	Contact: <u>Cu:40u" ,Sn:40u" ,Ni:40u"</u> Shell: <u>Cu:40u" ,Ni:40u"</u> Ground: <u>Cu:40u" ,Ni:40u" ,Sn:40u"</u>	/
<b>Product Qualification and Requalification test</b>			
<b>Test Group</b>			

Test or Examination	A	B	C	D	E	F	G	H	I	J
	Test Sequence (a)									
Examination of Product	1, 7	1, 9	1, 6	1, 5	1, 5	1, 5	1, 5	1, 3	1, 3	1, 3
Contact Resistance		2, 8	2, 5	2, 4	2, 4	2, 4	2, 4			
Dielectric withstanding	3, 6									
Insulation Resistance	2, 5									
Temperature Rising								2		
Mating Force		3, 7								
Unmating Force		4, 6								
Durability		5								
Vibration			3							
Mechanical Shock			4							
Solderability										2
Resistance to Soldering									2	
Thermal Shock				3						
Humidity Temperature	4				3					
Temperature Life						3				
Salt Spray							3			
備注	無客戶指定增加測試項目外，依照此標準進行產品可靠性評估。									

核准：唐竹君

制作人：魏红



3	Cold test	Temperature: -25 ±3°C Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
4	Temperature cycling test	Temperature:85 ~-25°C Duration:5 cycle	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	

**四.物理測試 PHYSICAL TEST**

序 號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄 Testing Result					判定 Judge	
					1	2	3	4	5	Pass	Fail
1	Salt spray test	Temperature: 35±2°C Concentration:5±1 %Duration:12H	SALT SPRAY TESTER	No Oxidation	Pass	Pass	Pass	Pass	Pass	P	
2	Resistance to soldering heat test	Temperature: 260±5°C Duration:10±1sec	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Solder ability test	Temperature: 260±5°C Duration:5±0.5 sec	CONTROLLED CONSTANT-TEMP SOLDER POT	Soldering area ≥95□	Pass	Pass	Pass	Pass	Pass	P	
判定 Result		<input checked="" type="checkbox"/> 合格 (ACCEPT) <input type="checkbox"/> 不合格 (REJECT)									

核准(Approver): 欠必峰

測試(Tester): 但芬



## 檢驗報告

首件檢驗
 入庫檢驗
 出貨檢驗
 客退檢驗
 退料檢驗
 其他

2022年08月16日 版次:A1

料號	JK1-230-DA17	制令單號	/	送檢單位	工程部	首件製作者	裝配	
品名	DC-033 中心柱1.3	客戶代號	/	批 量	/	送檢時間	/	
				數 量	5PCS	確認時間	/	
抽樣標準		<input checked="" type="checkbox"/> 單次 <input type="checkbox"/> 雙次		抽樣數 ( 5PCS )	AQL	CRI:0 MAJ:0.40	MIN:0.65	
MIL-STD-105E(II)		<input checked="" type="checkbox"/> 正常 <input type="checkbox"/> 加嚴 <input type="checkbox"/> 減量			ACC/REJ	0	/	/
不良數: CRI ( / ) MAJ ( / ) MIN ( / )						不良率(%)		/

NO.	檢驗項目 單位:MM/G	檢測 儀器	檢 驗 記 錄					品管判定		CRI	MAJ	MIN	備注
			1	2	3	4	5	AC	RE				
	10.5±0.30	D	10.52	10.51	10.50	10.53	10.52	√					
	2.5±0.30	D	2.52	2.51	2.52	2.50	2.51	√					
	6.0±0.30	D	6.02	6.01	6.02	6.02	6.01	√					
	5.2±0.30	D	5.24	5.24	5.25	5.24	5.23	√					
	2.5±0.30	D	2.51	2.50	2.52	2.51	2.50	√					
	1.3±0.30	D	1.32	1.35	1.32	1.32	1.33	√					
	3.8±0.30	D	3.82	3.81	3.82	3.80	3.82	√					
	2.7±0.30	D	2.72	2.71	2.73	2.72	2.72	√					
	8.0±0.30	D	8.02	8.01	8.01	8.03	8.02	√					
	9.3±0.30	D	9.31	9.30	9.34	9.32	9.32	√					
	8.1±0.20	D	8.12	8.13	8.12	8.13	8.12	√					
	3.5±0.20	D	3.50	3.51	3.53	3.52	3.52	√					
	8.4±0.20	D	8.41	8.42	8.43	8.40	8.40	√					
	5.0±0.1	D	5.01	5.01	5.02	5.03	5.02	√					
	1.6±0.3	D	1.62	1.61	1.63	1.62	1.62	√					
	0.8±0.3	D	0.82	0.81	0.83	0.83	0.82	√					

 檢驗依據: 《工程圖紙》 《檢驗規範》 《承認書》 樣品 其它

檢測儀器:A游標卡尺 B千分尺 C厚薄儀 D投影鏡 E放大鏡 F顯微鏡 G錫爐 H插拔力器 I間位尺 J其它

品保判定:

核 准 APP	欠必鋒	審 核 CHK	/	檢驗員 INSPBY	但芬
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保存期限:三年

保存部門:品保部

QR-M-003

## 电镀报告表

品名:DC-033 中心柱1.3 (端子)			版次:A.0		
电镀规格:Ni40u", Sn40u", Ag4u"		日期:2022/07/30		页次:1/1	
厂商:同华					
测试设备:CMI X-射线膜厚测试仪					
1、底层电镀测试 (Ni)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"MIN	60.5u"	OK	2022/7/30	10:20:15
2	40u"MIN	58.3u"	OK	2022/7/30	10:20:17
3	40u"MIN	67.5u"	OK	2022/7/30	10:20:19
4	40u"MIN	62.4u"	OK	2022/7/30	10:20:21
3、表层电镀测试 (Ag)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	4u"MIN	4.3u"	OK	2022/7/30	10:30:32
2	4u"MIN	4.2u"	OK	2022/7/30	10:30:34
3	4u"MIN	4.5u"	OK	2022/7/30	10:30:36
4	4u"MIN	4.7u"	OK	2022/7/30	10:30:38

核准: 欠必锋

审核: 李娟

检验员: 但芬



# 深圳市华联威电子科技有限公司

## 盐水喷雾实验报告

试验方法	盐水喷雾腐蚀试验法	参考资料	MIL-STD-1345
METHOD	NEUTRL SALT SPRAY CORROSION TEST	REF	
客户		试验起始日期	2022年08月15日 20:00 时起
		DATE	2022年08月16日 08:00 时止
样品名称	DC-033 中心柱1.3	试验数量	5PCS
P/N	JK1-230-DA17	QTY	

### 试验条件 (TEST CONDITION)

- 1、盐水溶解 (SALT SOLUTION: 浓度 $50 \pm 10\text{g/L}$ , PH值6.5-7.2).
- 2、试验室温度 (TEMP. IT THE SPRAY DHAMBR):  $35 \pm 1^\circ\text{C}$ .
- 3、盐水桶温度 (TEMP. OF SALE SOL' N TANK):  $35 \pm 1^\circ\text{C}$ .
- 4、压力桶温度 (TEMP. OF SAR SUPPLIERY):  $47 \pm 1^\circ\text{C}$ .
- 5、试验室相对湿度 (R. H IN THE CHAMBER ) 85%.
- 6、压缩空气压力 (COMPRESSED AIR PRESSURE):  $1.00 \pm 0.01\text{Kg/cm}^2$ .
- 7、样品放置位置 (SPECIMEN SUPPORTED ANGLE ): 尼龙绳吊挂 $70^\circ - 90^\circ$ .
- 8、喷雾收集量 (COLLECT RATE OF SALT SOL' N)  $1-2\text{mL}/(8 \text{ cm}^2\text{hr})$ .
- 9、盐雾测试时间: 12小时 (H)

### 判定方法 (ADFUSGD METHOD)

试验后以20倍放大镜观察、无蓝、绿色腐蚀物之现象 (不包含折弯处), 即判定合格. (Inspext the ecimen at 20 xmagnification no blue or green corrosion products are acceptable)

样品序号	试验后现象	判定
	PHENOMENON AFTER TEST	COMMENT
1	无蓝、绿色腐蚀物之现象	OK
2	无蓝、绿色腐蚀物之现象	OK
3	无蓝、绿色腐蚀物之现象	OK
4	无蓝、绿色腐蚀物之现象	OK
5	无蓝、绿色腐蚀物之现象	OK

核准: 欠必锋

审核: 李娟

试验员: 但芬

# 鉅鼎銅材廠檢驗報告單

公司名稱 Customer	鉅鼎銅材廠檢驗報告單				重量 Weight(kg)	1078	出貨日期 Date	2021/11/23		
品名 Article	標準 Standard No				尺寸 Dimension		狀態 Tenper	銅卷編號 Coil No		
C2680	JISH3100:2017				0.18*400		EH	1021-C-08		
化學成分Chemical Compositions(%)										
元素 Element	Cu %	Zn%	Pb%	Fe%	\	\	\	\	化學成分	雜質
規範 Spec	64.0-68.0	餘量	<0.05	<0.05	\	\	\	\	合格	合格
實測 Actual	64.32	餘量	0.0036	0.0136	\	\	\	\	合格	合格
機械性質Mechanical Properties										
項目 Item	結晶粒度 Grain Size Mm	硬度 Hardness Hv	抗拉強度 TensionStrength Mpa	伸長度 Elongation %	導電率 Electrical Conduc %IACS	彎曲試驗 Bending Test 180	表面粗度 Surface Roughness Ra(u m)	彎曲度 Camber mm/n		
規範MAX Spec	\	170-190	490-610	\	\	\	\	\		
實測 Actual	\	178	574	5	\	\	\	\		

品質部


 聯繫電話:0755-28111847  
 傳真: 0755-28110077  
 送貨專用章

## Test Report

No. CANEC2119174201

Date: 22 Oct 2021

Page 1 of 4

SHENZHEN HUALIANWEI ELECTRONICS TECHNOLOGY CO.,LTD

101, 201, PLANT 1, NO.307, GUANLAN GUIHUA ROAD, GUIXIANG COMMUNITY, GUANLAN SUB-DISTRICT, LONGHUA DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : C2680 Terminal

SGS Job No. : CP21-055214 - GZ  
Model No. : C2680 terminal after plating  
Client Ref. Info. : Used for USB series, HDMI series, RJ series, 1394 series, MICRO series, MINI series, DISPLAYPORT series, VGA series, DVI series, TYPE-C series, JACK series  
Date of Sample Received : 18 Oct 2021  
Testing Period : 18 Oct 2021 - 22 Oct 2021  
Test Requested : Selected test(s) as requested by client.  
Test Method : Please refer to next page(s).  
Test Results : Please refer to next page(s).  
Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

scan to see the report



94BEAB15



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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t (86-20) 82155555 www.sgs.com.cn  
t (86-20) 82155555 sgs.china@sgs.com

## Test Report

No. CANEC2119174201

Date: 22 Oct 2021

Page 2 of 4

Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-191742.001	Silver-grey/brassy metal

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis .

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	44
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.



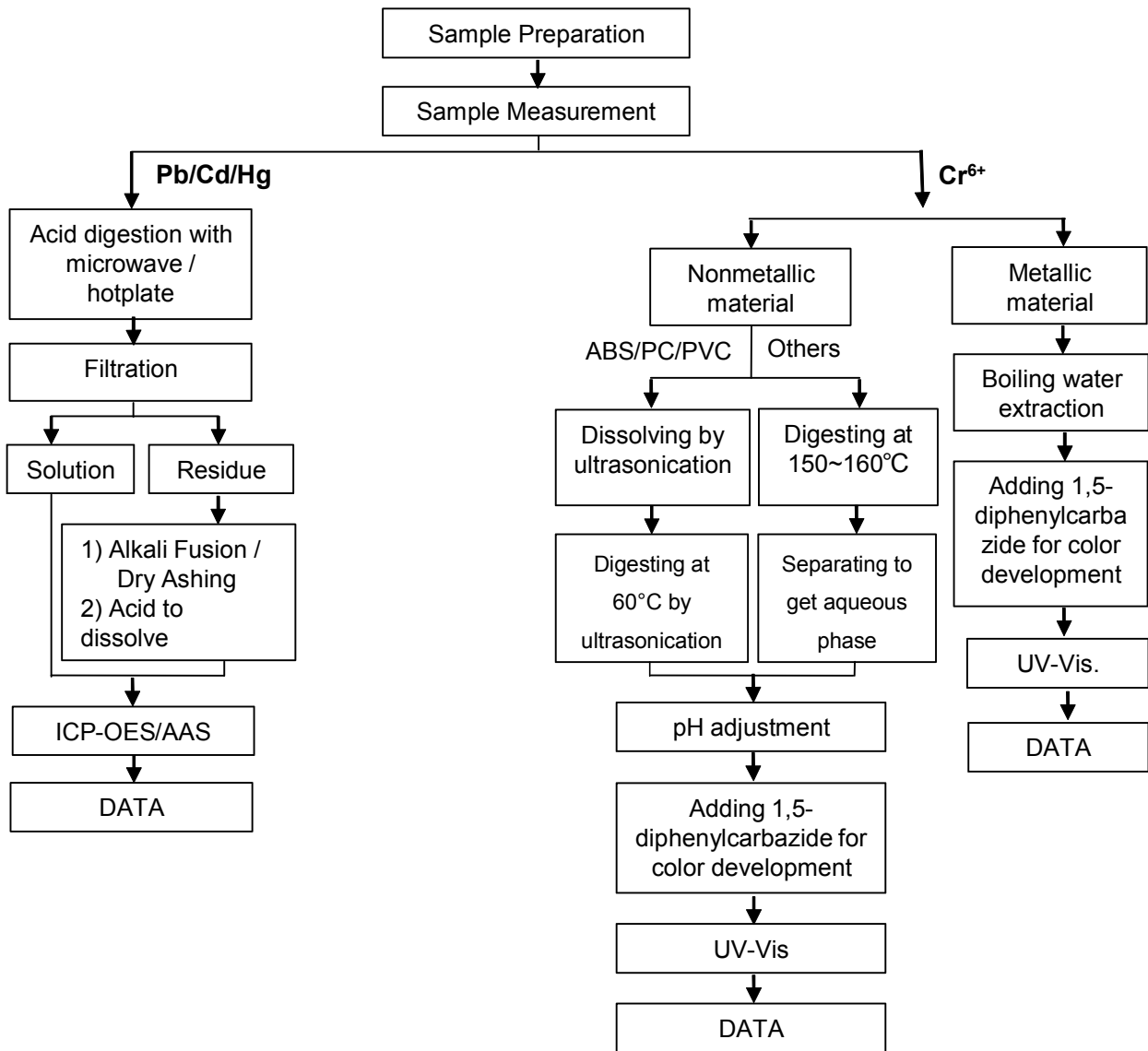
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ATTACHMENTS

**Pb/Cd/Hg/Cr<sup>6+</sup> Testing Flow Chart**

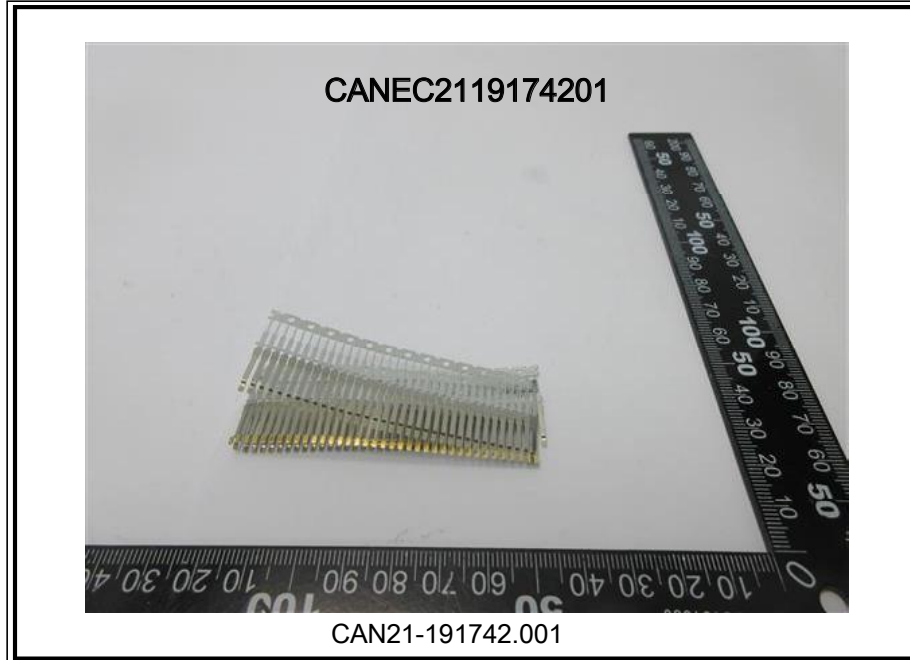
1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded).



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Sample photo:



SGS authenticate the photo on original report only

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







# 检测报告 Test Report

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Report No. A2210086079101E

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报告抬头公司名称 宁波毅哲新材料有限公司  
Company Name NINGBO YIZHE NEW MATERIALS CO.,LTD  
shown on Report  
地 址 浙江省余姚市舜汇东路 107 号  
Address NO.107 SHUNHUI EAST ROAD, YUYAO CITY, ZHEJIANG PROVINCE

以下测试之样品及样品信息由申请者提供并确认

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称	PPA YZ-6140
Sample Name	PPA YZ-6140
样品接收日期	2021.03.15
Sample Received Date	Mar. 15, 2021
样品检测日期	2021.03.15-2021.03.20
Testing Period	Mar. 15, 2021 to Mar. 20, 2021

## 测试内容 Test Conducted:

根据客户的申请要求，具体要求详见下一页。

As requested by the applicant. For details refer to next page(s).



主 检 江国栋  
Tested by

审 核 郭世荣  
Reviewed by

批 准 张琳  
Approved by

日 期 2021.03.20  
Date

张琳  
技术经理 Technical Manager

No. R465028463

宁波市华测检测技术有限公司

宁波高新区菁华路 76 号厂区东首第一、二层

Centre Testing International (Ningbo) Co.,Ltd.

1-2F, Eastern Factory, No.76, Jinghua Road, High-Tech Zone, Ningbo, Zhejiang, China

# 检测报告 Test Report

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## 测试摘要 Executive Summary:

### 测试要求

#### TEST REQUEST

1. 美国有毒物质控制法案(TSCA)  
Toxic Substances Control Act (TSCA)
  - 十溴二苯醚  
Decabromodiphenyl Ether (DecaBDE)
  - 异丙基化磷酸三苯酯  
Phenol, Isopropylated Phosphate (PIP (3:1))
  - 2,4,6-三叔丁基苯酚  
2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP)
  - 六氯丁二烯  
Hexachlorobutadiene (HCBd)
  - 五氯苯硫酚  
Pentachlorothiophenol (PCTP)
2. 根据客户要求, 对所提交样品中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)进行测试。  
As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP) in the submitted sample(s).

### 测试结果

#### CONCLUSION

符合  
PASS  
符合  
PASS  
符合  
PASS  
符合  
PASS

\*\*\*\*\*详细结果, 请见下页\*\*\*\*\*

\*\*\*\*\* For further details, please refer to the following page(s) \*\*\*\*\*

# 检测报告

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\*\*\*\*\*

### 2 结论 Conclusion

测试样品 Tested Sample	依据标准/指令 According to standard/directive	结果 Result
提交样品 Submitted Sample	欧盟 RoHS 指令 2011/65/EU 及其修订指令 (EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	符合 PASS

\*\*\*\*\*

符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

# 检测报告

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### 1.1 美国有毒物质控制法案(TSCA) Toxic Substances Control Act (TSCA)

#### ▼ 十溴二苯醚 Decabromodiphenyl Ether (DecaBDE)

参考方法 US EPA 3550C:2007&US EPA 8270E:2018, 通过 GC-MS 分析。

Refer to method(s)US EPA 3550C:2007&US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	报告检出限 Report Limit (mg/kg)	限值 Limit (mg/kg)
十溴二苯醚 Decabromodiphenyl Ether (DecaBDE)	N.D.	50	N.D.

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

#### ▼ 异丙基化磷酸三苯酯 Phenol, Isopropylated Phosphate (PIP (3:1))

参考方法 US EPA 3550C:2007&US EPA 8270E:2018, 通过 GC-MS 分析。

Refer to method(s)US EPA 3550C:2007&US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	报告检出限 Report Limit (mg/kg)	限值 Limit (mg/kg)
异丙基化磷酸三苯酯 Phenol, Isopropylated Phosphate (PIP (3:1))	N.D.	50	N.D.

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

# 检测报告

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▼ **2,4,6-三叔丁基苯酚 2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP)**

参考方法 US EPA 3550C:2007&US EPA 8270E:2018, 通过 GC-MS 分析。

Refer to method(s)US EPA 3550C:2007&US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	报告检出限 Report Limit (mg/kg)	限值 Limit (mg/kg)
2,4,6-三叔丁基苯酚 2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP)	N.D.	50	3000

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

▼ **六氯丁二烯 Hexachlorobutadiene (HCBd)**

参考方法 US EPA 3550C:2007&US EPA 8270E:2018, 通过 GC-MS 分析。

Refer to method(s)US EPA 3550C:2007&US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	报告检出限 Report Limit (mg/kg)	限值 Limit (mg/kg)
六氯丁二烯 Hexachlorobutadiene (HCBd)	N.D.	50	N.D.

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

# 检测报告

## Test Report

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▼ **五氯苯硫酚 Pentachlorothiophenol (PCTP)**

参考方法 US EPA 3550C:2007&US EPA 8270E:2018, 通过 GC-MS 分析。

Refer to method(s)US EPA 3550C:2007&US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	报告检出限 Report Limit (mg/kg)	限值 Limit (mg/kg)
五氯苯硫酚 Pentachlorothiophenol (PCTP)	N.D.	50	10000

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

样品/部位描述 黑色塑料颗粒  
Sample/Part Description Black plastic grains

# 检测报告

## Test Report

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### 2.1 检测依据 Test Method

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017 和/或 IEC 62321-5:2013 测试总铬含量 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS

# 检测报告

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### 2.2 检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
铅 Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
<b>多溴联苯 Polybrominated Biphenyls (PBBs)</b>			
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
<b>多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)</b>			
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg	



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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
<b>邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)</b>			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

**样品/部位描述** 黑色塑料颗粒  
**Sample/Part Description** Black plastic grains

**备注:** 对于检测铅, 镉, 汞之样品已完全溶解。  
-N.D. = 未检出 (小于方法检出限)  
-mg/kg = ppm = 百万分之一  
-1000 mg/kg = 0.1%  
-LOQ = 定量限, 六价铬的定量限为 0.10  $\mu\text{g}/\text{cm}^2$   
-▼六价铬浓度小于 0.10  $\mu\text{g}/\text{cm}^2$ , 样品未检出六价铬。

**Remark:** **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**  
-MDL = Method Detection Limit  
-N.D. = Not Detected (<MDL)  
-mg/kg = ppm = parts per million  
-1000 mg/kg = 0.1%  
-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10  $\mu\text{g}/\text{cm}^2$   
-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10  $\mu\text{g}/\text{cm}^2$ . The coating is considered a non-Cr(VI) based coating.

**注释:** 本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。

**Note:** **The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.**

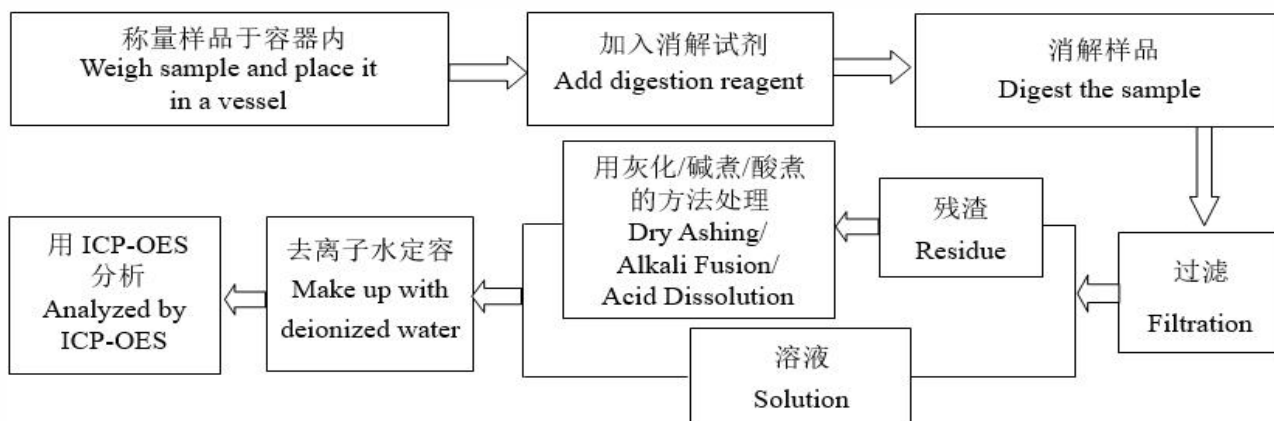
# 检测报告 Test Report

报告编号 A2210086079101E  
Report No. A2210086079101E

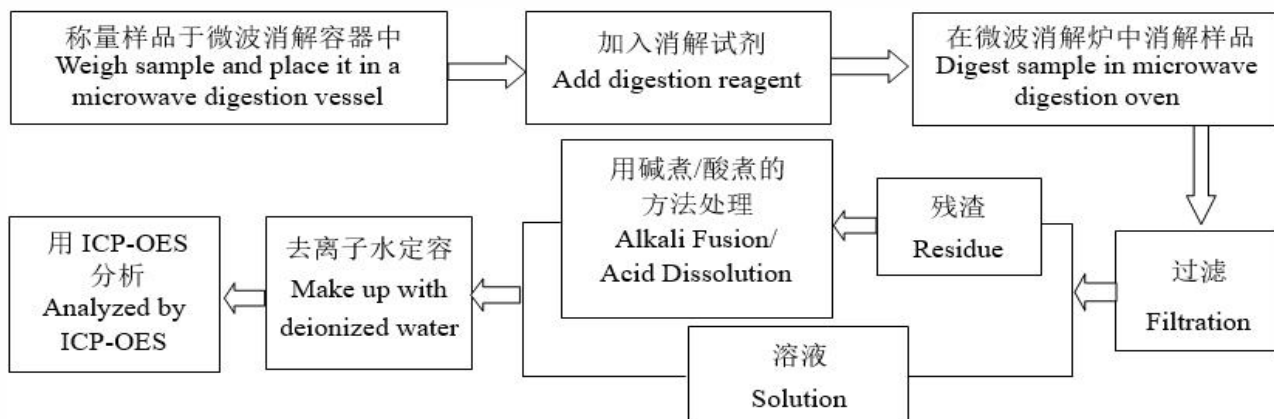
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## 2.3 检测流程 Test Process

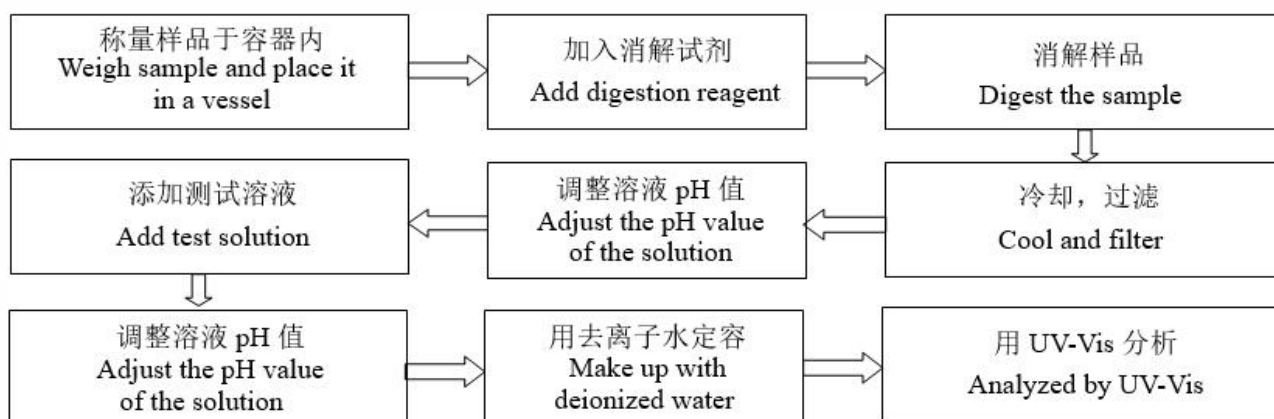
### 2.3.1. 铅 Lead (Pb), 镉 Cadmium (Cd), 铬 Chromium(Cr)



### 2.3.2. 汞 Mercury (Hg)



### 2.3.3. 六价铬 Hexavalent Chromium (Cr(VI))



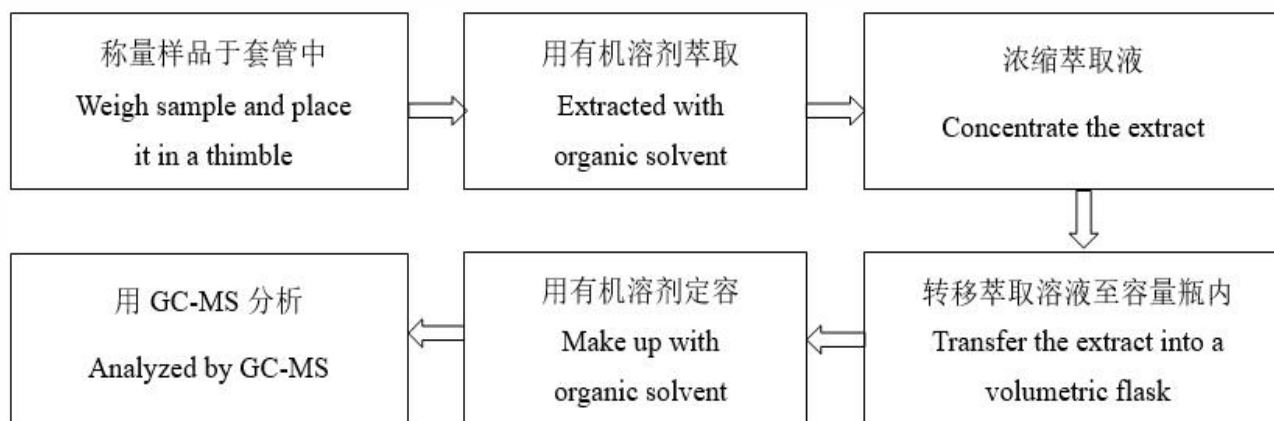
# 检测报告

## Test Report

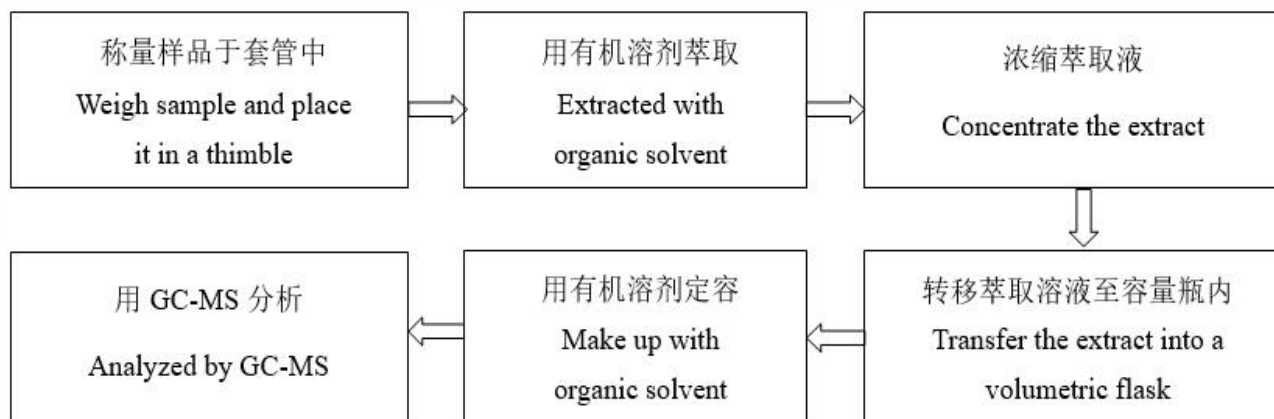
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### 2.3.4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



### 2.3.5. 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)



# 检测报告 Test Report

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## 样品图片

### Photo(s) of the sample(s)



#### 声明 Statement:

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效;  
This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供, 申请者应对其真实性负责, CTI 未核实其真实性;  
The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. 本报告检测结果仅对受测样品负责;  
The result(s) shown in this report refer(s) only to the sample(s) tested;
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In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

\*\*\* 报告结束 \*\*\*

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

## Test Report

No. CANEC2117633803

Date: 27 Sep 2021

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SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD

TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Nickel(Ni)

SGS Job No. : CP21-051017 - SZ

Date of Sample Received : 18 Sep 2021

Testing Period : 18 Sep 2021 - 27 Sep 2021

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

scan to see the report



CANEC2117633803



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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## Test Report

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Date: 27 Sep 2021

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Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-176338.003	Silver-gray plated metal

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	003
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	37
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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# Test Report

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Date: 27 Sep 2021

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

**Notes :**

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) ▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

**Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives**

Test Method : With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND



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## Notes :

- (1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
- (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



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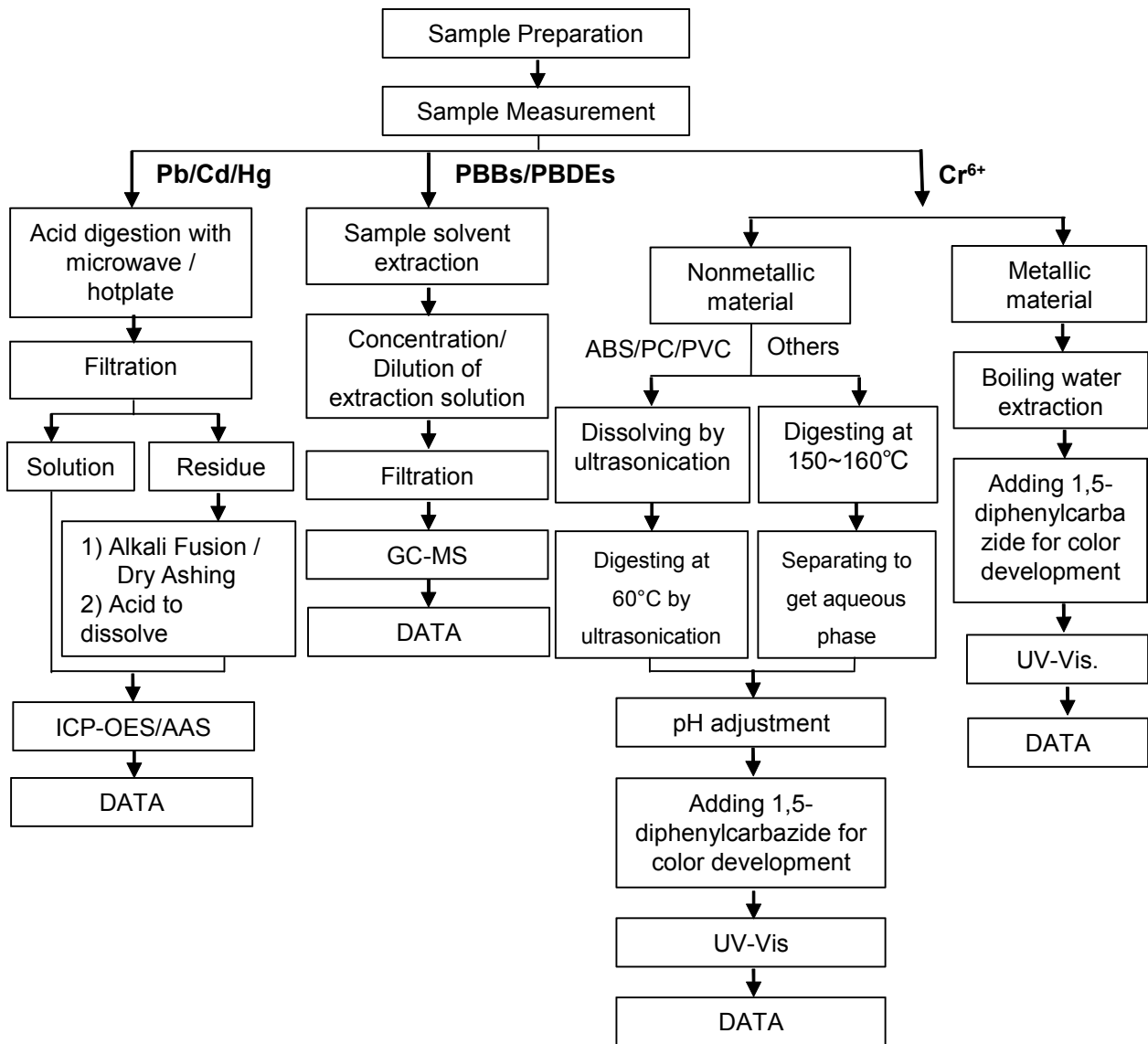
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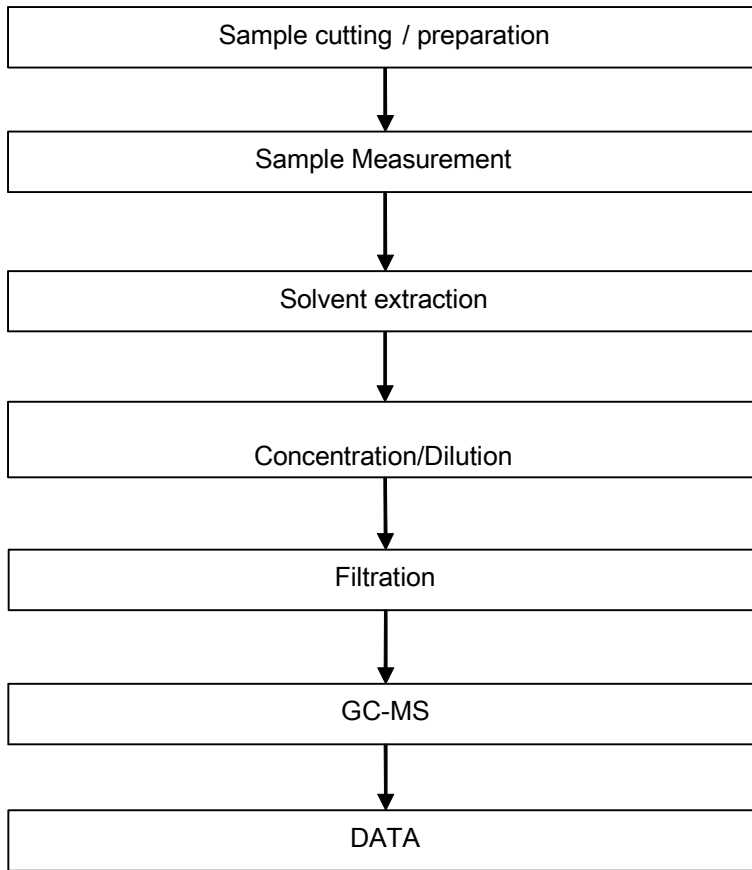
Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).



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Phthalates Testing Flow Chart

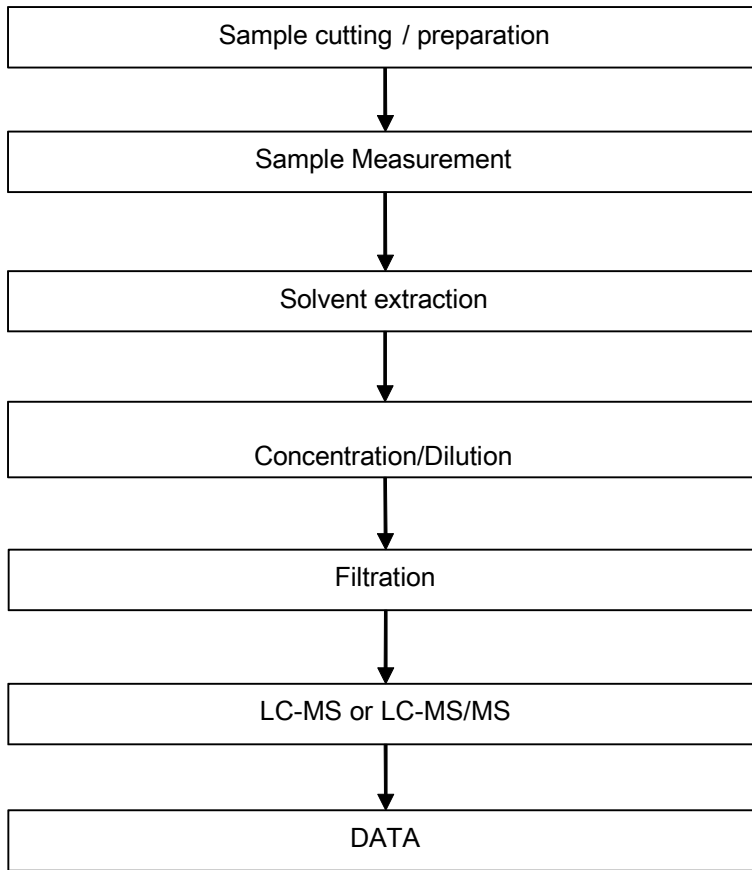


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PFOA / PFOS Testing Flow Chart



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Sample photo:



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## Test Report

No. CANEC2117633802

Date: 27 Sep 2021

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SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD

TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Bright Tin(SN)

SGS Job No. : CP21-051017 - SZ

Date of Sample Received : 18 Sep 2021

Testing Period : 18 Sep 2021 - 27 Sep 2021

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

scan to see the report



CANEC2117633802



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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## Test Report

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Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-176338.002	Silver-gray plated metal

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	002
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	29
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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## Test Report

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

### Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
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- (3) ▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

### Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method : With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND



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## Notes :

- (1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
- (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



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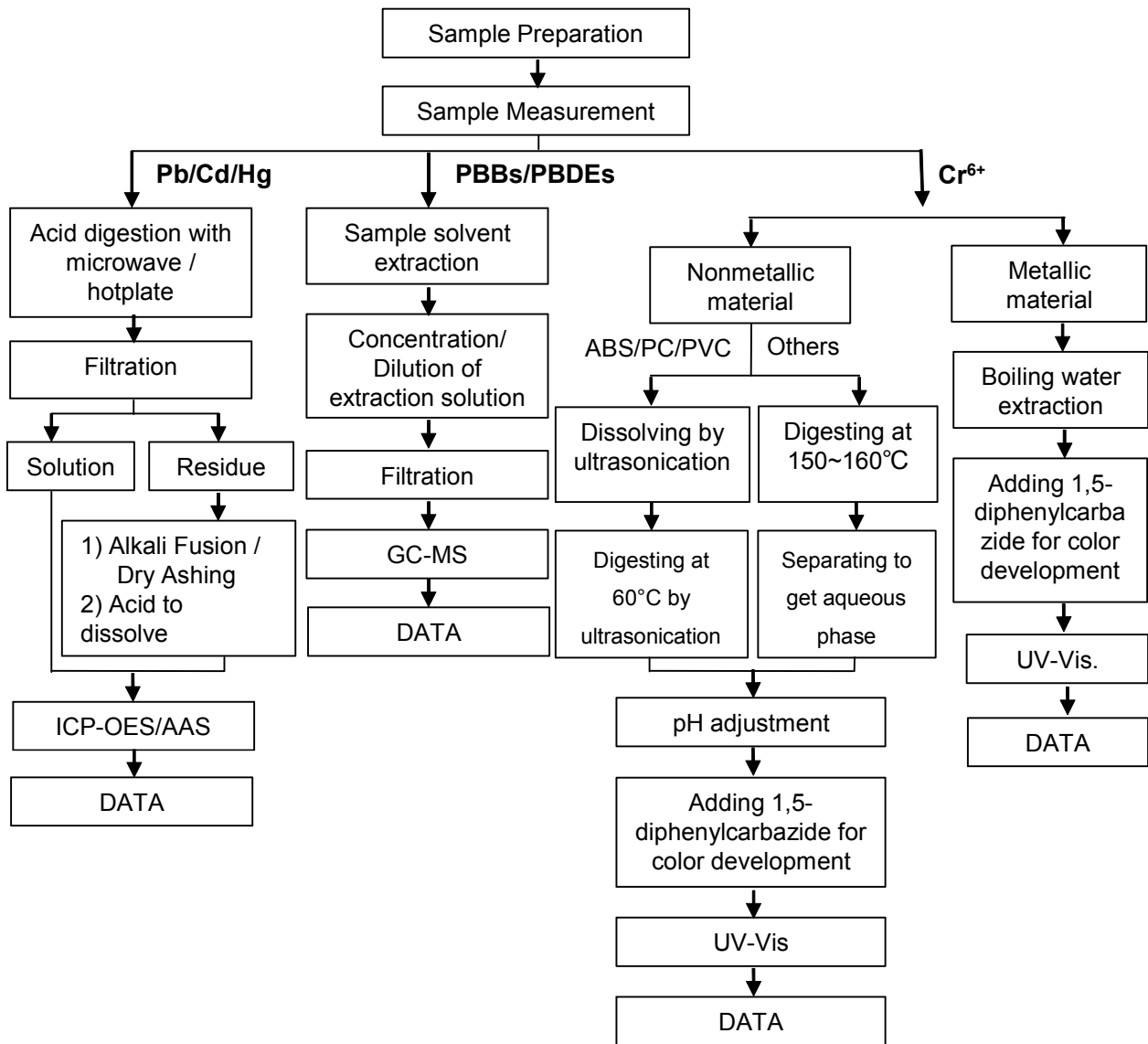
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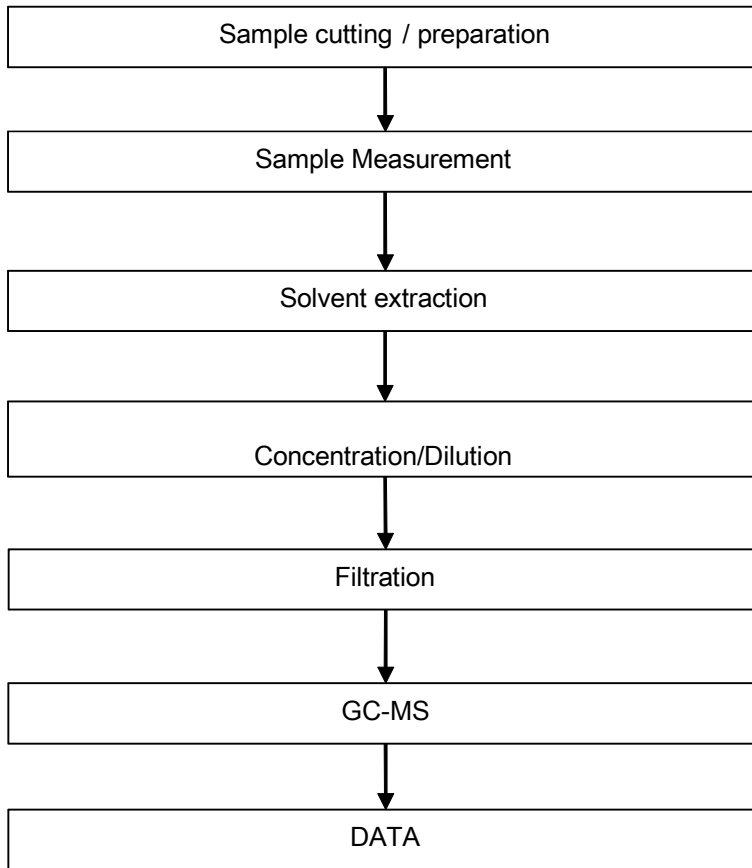
**Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart**

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).



## ATTACHMENTS

### Phthalates Testing Flow Chart

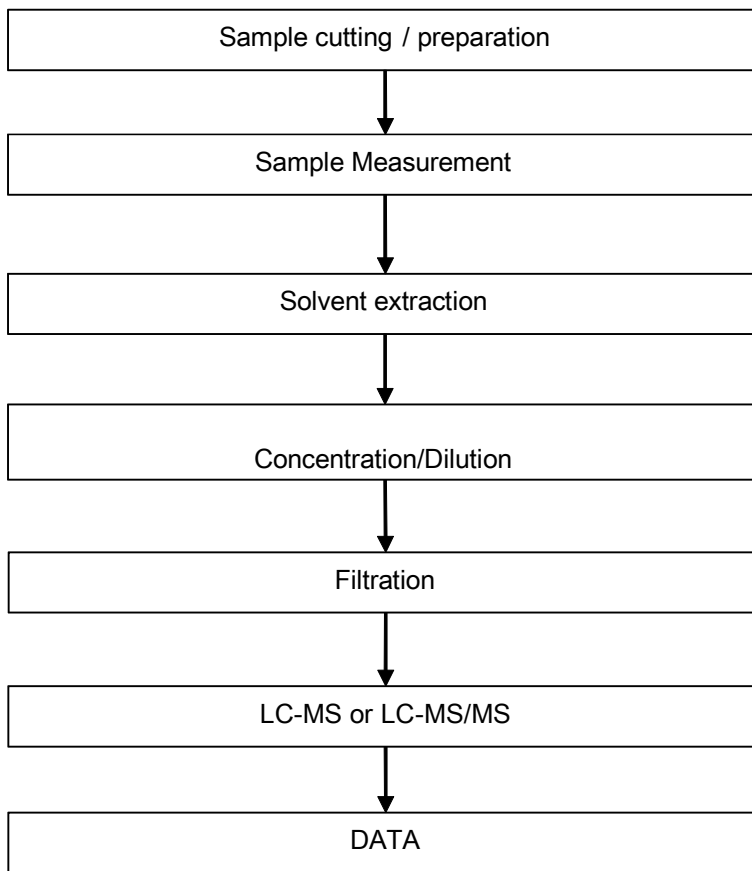


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PFOA / PFOS Testing Flow Chart



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Sample photo:



SGS authenticate the photo on original report only

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



## Test Report

No. CANEC2117633801

Date: 27 Sep 2021

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SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD

TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Glod( AU)

SGS Job No. : CP21-051017 - SZ

Date of Sample Received : 18 Sep 2021

Testing Period : 18 Sep 2021 - 27 Sep 2021

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

scan to see the report



CANEC2117633801



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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## Test Report

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Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-176338.001	Gold plated metal

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	73
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

### Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) ▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

### Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method : With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND



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Notes :

- (1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
- (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



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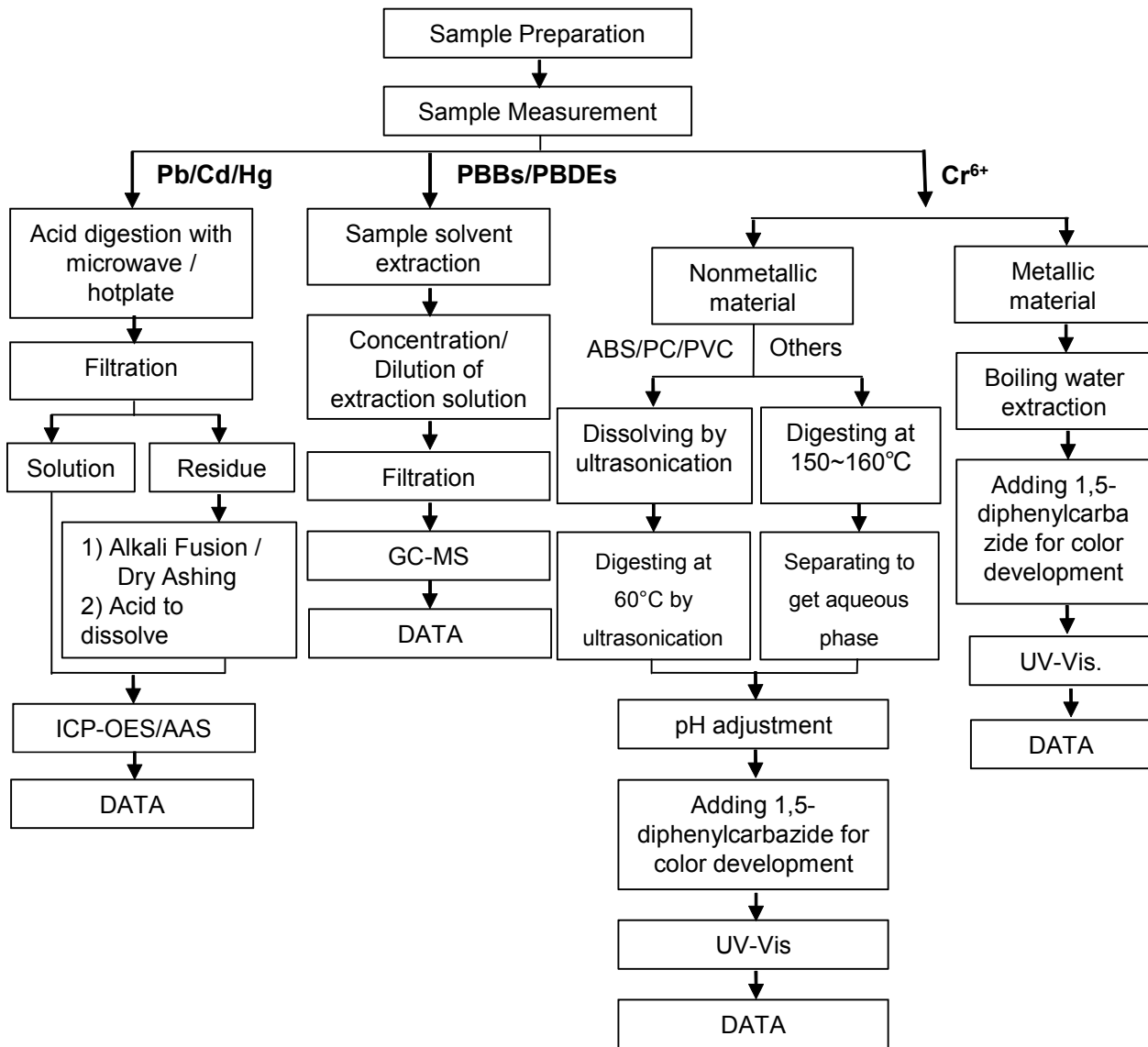
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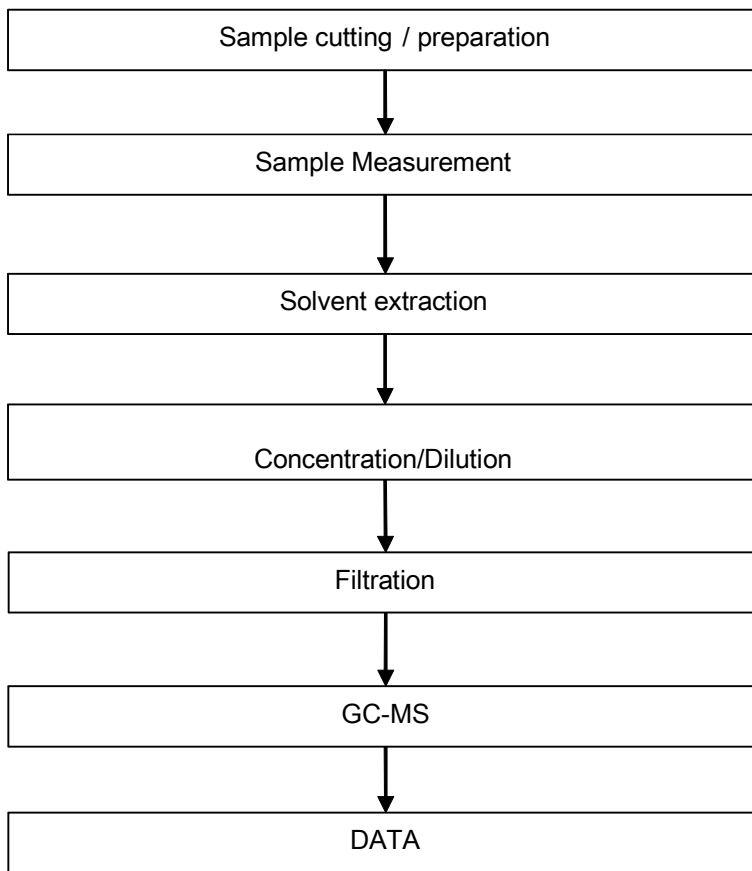
**Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart**

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).



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Phthalates Testing Flow Chart

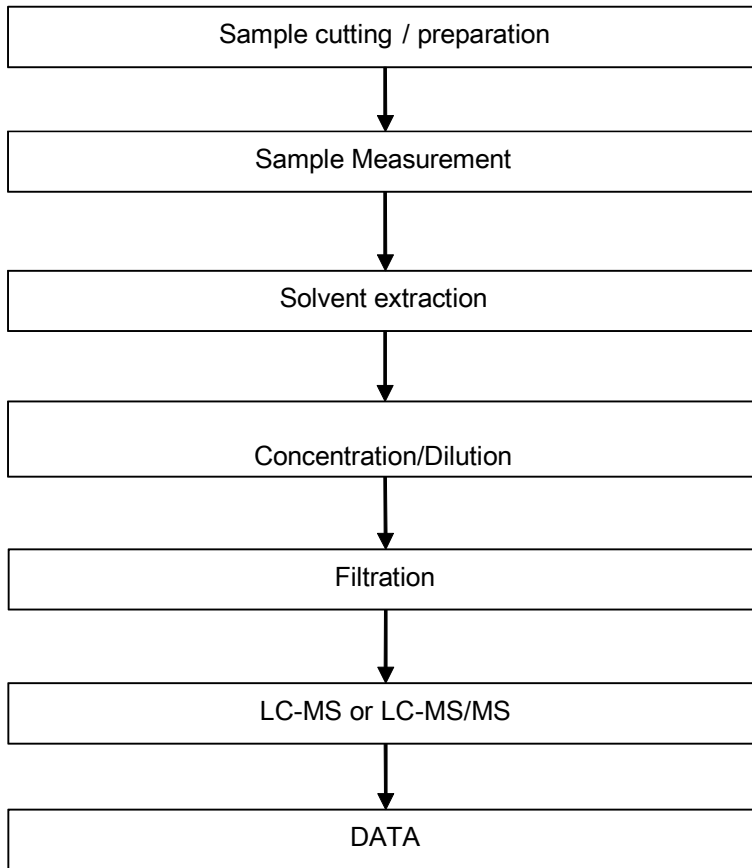


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PFOA / PFOS Testing Flow Chart



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