承 認 書
APPROVAL SHEET

客戶名稱
Customer: 研揚科技股份有限公司

飛偉料號
FW P/N: FWAA-1309

客戶料號
Cus. P/N: 170X000093

規格敘述
DESCRIPTION: 1.0mm 2X20P CABLE 150mm

審　核 Approved By	業　務 Sales Dept	品　保 QA Dept	工　程 Engineering Dept
王俊偉	張全生	劉江華	楊仁貴

客戶簽章
Customer Signature:

審　核 Approved By	核　對 Checked By	檢　驗 Tested By

飛偉科技有限公司
FLYINGWAY TECH CO.,LTD
Address:新北市永和區中和路345號7F-4
TEL:02-22311313
FAX:02-22311020
CONTACT:Chino Wang
E-Mail:chino@flyingwaytech.com.tw
Cellphone:0983588528

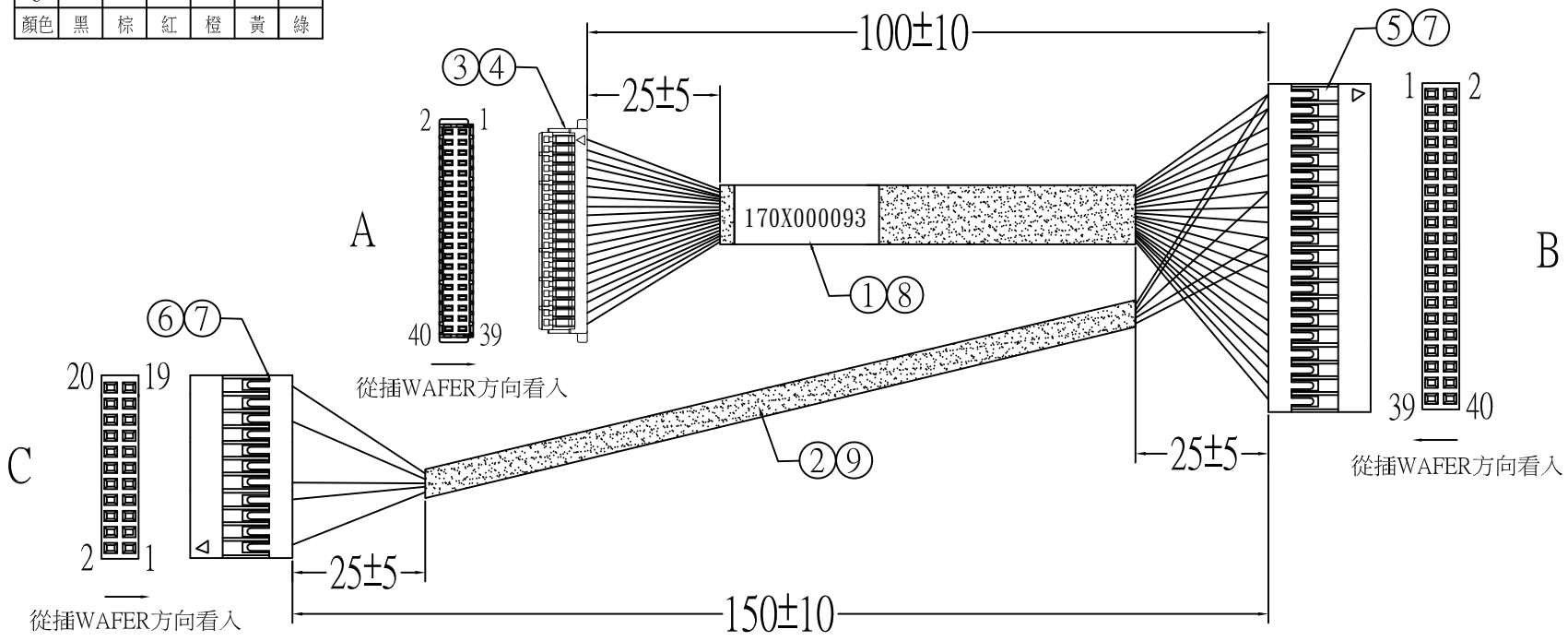
DATE:2020/03/25

RoHS Compliant

Pin對照表

A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
顏色	紅	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑	黑

B	1	21	19	14	3	4
C	2	8	10	16	17	19
顏色	黑	棕	紅	橙	黃	綠



NO	品 名 規 格	數量	單位	生產廠商
9	套管:L=50mm 黑 薄	1	pcs	WORE或同級品
8	套管:L=100mm 黑 薄	1	pcs	WORE或同級品
7	TER:12541T2B-OA	46	pcs	JCTC或同級品
6	HSG:12541H00-2*10PA	1	pcs	JCTC或同級品
5	HSG:12541H00-2*20PA	1	pcs	JCTC或同級品
4	TER:11002TOP-2E	40	pcs	JCTC或同級品
3	HSG:11002H00-2*20P	1	pcs	JCTC或同級品
2	線材:UL1571#28 OD=0.8 黑;棕;紅;橙;黃;綠各1 L=165*3.5*3.5	共6	pcs	瑞興或同級品
1	線材:UL1571#28 OD=0.8 黑*39;紅*1 L=112*3.5*3.5	共40	pcs	瑞興或同級品

客戶工程師	Jimmy	
版次	變更內容	變更日期
A	新發行	2020/01/16

飛 偉 科 技 有 限 公 司
FLYINGWAY TECH CO.,LTD
TEL:02-2231-1313
FAX:02-2231-1020
E-MAIL:chino@flyingwaytech.com.tw

TITLE: 1.0mm 2*20P CABLE 150mm

FW P/N: FWAA-1309

CUS. P/N: 170X000093

REV:	DWG BY:	CHECKED BY:	DATE:
A	Irene	Chino	2020/01/16

UL 1571 HOOK-UP WIRE
80℃ 30V 環保 SR-PVC 電子線

UL Subject 758

UL FILE NO:E108485

說明:

- 導體使用單條或絞線最小至 50AWG 裸銅或鍍錫銅
- 環保 SR-PVC 絕緣
- 額定溫度:80℃，額定電壓:30Volts
- 可通過 UL VW-1 垂直型耐燃測試。

應用:

- 電子設備二次迴路中內部連接用線

Applications:

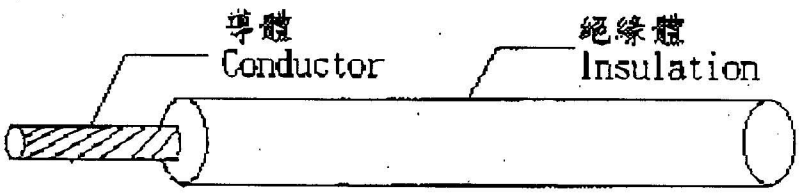
- Internal wiring in electronic equipments

Product Description:

- Tinned, annealed, attended or solid copper conductor, MIN,50AWG
- Lead FreeSR- PVC insulation.
- Rated temperature: 80℃,Rated voltage:30volts.
- Uniform thickness of wire to ensure easy stripping and cutting
- Passes UL VW-1 vertical flame test.

構造及電氣性能

stucture & electric properties(UL STANDARD 758:外徑 0.70mm 以下不印字)



UL 1571	額定 Range 溫度 Temp ℃	額定 Range 電壓 Voltage V	導體 Conductor 線號 AWG	導體 Conductor 構成 NO./mm	絕緣體 Insulation 厚度 Thickness mm	絕緣體 Insulation 外徑 O.D mm	公差值 Tolerance Mm	最大導體阻抗 Maximum Conductor Resistance Ω/km	最小絕緣阻抗 Minimum Insulation Resistance MΩ/km	絕緣耐電壓(VAC/min) Insulation Potential Strength
多芯線 Stranded	80℃	30V	34	7/0.060	0.20	0.60	±0.05	728	15	500
			32	7/0.080	0.20	0.65		703		
			30	7/0.100	0.20	0.70		397		
			28	7/0.127	0.20	0.80		248		
			26	7/0.160	0.20	0.90		152		
			24	11/0.160	0.20	1.05		88.6		
			22	17/0.160	0.20	1.20		62.5		
			20	21/0.180	0.20	1.50		39.5		
先絞後鍍 (ATC)			34	7/0.060	0.20	0.60		728		
			32	7/0.080	0.20	0.65		703		
			30	7/0.100	0.20	0.70		397		
			28	7/0.127	0.20	0.80		248		
			26	7/0.160	0.20	0.90		152		
			24	7/0.200	0.20	1.05		88.6		
單芯線 (TA)			30	1/0.254	0.20	0.65		377		
			28	1/0.320	0.20	0.75		245		
			26	1/0.404	0.20	0.85		155		

瑞 興 電 線 電 纜 制 品 廠
REI HSING ELECTRIC WIRE AND CABLE CO.,LTD.
承 認 書
SPECIFICATION

型號 STYLE				UL 1571						
額定溫度/電壓 RATING TEMP./VOLT.				80℃/30V						
導體 CONDUCTOR	線號 SIZE		AWG	34	32	30	28	26	24	22	20
	芯數 NUMBER		NO.	7	7	7	7	7	11	17	21
	銅線直徑 DIAMETER		MM	0.060	0.080	0.100	0.127	0.160	0.160	0.160	0180
	最小銅線直徑 MIN.DIAMETER		MM	0.054	0.074	0.090	0.117	0.150	0.150	0.150	0.170
	導體截面積 CROSS SEC AREA OF COND	AVG.	CM	39.7	64	100	159	253	404	640	1020
		MIN.		35.1	62.7	98	156	248	392	621	989
	絞距 LAY OF BUNCH		INCH	0.40	0.40	0.40	0.50	0.60	0.70	0.80	1.25
	最大電阻 MAX.RESISTANCE		Ω/KM	728	703	397	248	152	88.6	62.5	39.5
絕緣體 INSULATION	完成外徑 O.D. (±0.10)		MM	0.60	0.65	0.70	0.80	0.90	1.05	1.20	1.50
	絕緣體厚度 INSULATION THICKNESS	AVG	MM	0.20							
		MIN		0.15							
	外被厚度 JACKET THICKNESS	AVG	MM	/							
		MIN		/							
最小絕緣電阻 INSULATION ESISTANCE			MΩ/KM	15							
火花試驗 SPARK TEST			KV	2KV/0.15sec							
最小伸長率 ELONGATION			%	100%							
最小抗張強度 TENSIL STRENGTH			PSI	1500							
最小老化後伸長率 LO.(AFTER AGING)			%	OF UNAGED 65							
最小老化後抗張強度 TEN.ST.(AFTER AGING)			%	OF UNAGED 70							
老化試驗溫度/條件 AGING TEMP./TIME				113℃/168HRS							
耐燃燒試驗 FIAME TEST				VW-1							
高溫纏繞試驗 HEAT SHOCK TEST				80℃/1HR 1.60MM MANDREL							
低溫纏繞試驗 COLD BEND TEST				-10℃/1HR 3.2MM MANDREL							
耐電壓試驗 I NSULATION POTENTIALST				500VAC/min							

ISSUED	1997-01-17	APPROVED	CHECKED	PREPARED
REVISION		洪詩夾印	李天榮印	劉安輝

2600 N.W. Lake Road
Camas, WA 98607-8542
United States Country Code (1)
(360) 817-5500
FAX No. (360) 817-6000
http://www.ul.com

Underwriters Laboratories Inc.®

File E108485 Vol. 2 Issued: 01-17-97
Revised: 5-9-01

FOLLOW-UP SERVICE PROCEDURE
(TYPE L)

COMPONENT - APPLIANCE WIRING MATERIAL (AVLV2, AVLV8)

Manufacturer:
(342072-001)

REI HSING WIRE & CABLE CO LTD
TSENG TEN INDUSTRIAL PARK
CHEN KOU
CHANG AN TOWN
DONGGUAN GUANGDONG CHINA

* Applicant:
(559504-001)

REI HSING WIRE CO LTD
56-5 JIUN-ING ST
SHUH-LIN CITY
TAIPEI HSIEN TAIWAN

* Recognized Company:
(559504-001):

SAME AS APPLICANT

This Procedure authorizes the above Manufacturer to use the marking specified by Underwriters Laboratories Inc. only on products covered by this Procedure, in accordance with the applicable Follow-Up Service Agreement.

The Prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and the representatives of Underwriters Laboratories Inc. and is not used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. upon request.

The PROCEDURE, and any subsequent revisions, is the property of UNDERWRITERS LABORATORIES INC., and is not transferable.

瑞興電線電纜制品廠 工程部章 2010-2-08 發行章

UNDERWRITERS LABORATORIES INC.

J. J. Ritchie
Vice President
Laboratory Management and Operations

A not-for-profit organization
dedicated to public safety
committed to quality service

Issued: 1997-01-17
Revised: 2007-06-19

TABLE OF AUTHORIZED STYLES SINGLE-CONDUCTOR THERMOPLASTIC INSULATED WIRE

	Page	Issued		Page	Issued		Page	Issued	Page	Issued
F	1007	1997-06-04	F	1333	2003-12-08	F	1723	2003-12-08		
F	1010	2003-02-27	F	1371	2003-12-08		1726	2003-12-08		
F	1011	1997-06-04		1429	2004-11-24	F	1789	2004-11-24		
F	1013	1997-06-04	F	1430	1999-04-29	F	10064	2003-12-08		
F	1015	1997-06-04		1431	2004-11-24		10070	2006-07-21		
F	1028	1997-06-04	F	1497	1997-06-04		10109	2004-05-04		
	1032	2001-06-19	F	1500	1997-06-04		10198	2006-07-21		
	1061	1997-01-17		1516	2004-05-04		10362	2003-12-08		
	1080	2003-01-03		1533	2000-11-09		10368	2004-11-24		
F	1095	1997-06-04	F	1538	2003-12-08		10369	2004-11-24		
	1164	2004-05-04		1569	2003-06-17					
	1180	2004-05-04	F	1571	1997-01-17					
	1185	2000-11-09	F	1577	2003-12-08					
	1198	2004-05-04	F	1581	2001-05-09					
	1199	2004-05-04		1584	2004-05-04					
	1212	2004-05-04	F	1589	2007-06-19					
	1213	2004-05-04		1591	2003-12-08					
	1226	2003-12-08		1592	2003-12-08					
	1227	2003-12-08		1617	1997-01-17					
F	1283	2003-02-27		1618	2003-02-27					
	1285	2003-01-08		1672	2003-02-27					
F	1316	2003-02-27		1674	2003-02-27					
F	1330	2003-12-08	F	1685	2004-11-24					
F	1331	2003-12-08		1709	2003-12-08					
F	1332	2003-12-08		1710	2003-12-08					

SINWA LASER TECHNOLOGY CO.,LTD

50.WU KONG 5 TH RD,.WU KU INDUSTRIAL PARK .TAIPEI TAIWAN

The following sample(s) was/were submitted and identified on behalf of the clients as : INK WHITE FOR WIRE&CABLE PRINTING

SGS Job No. :	CP19-029729 - SZ
Client Ref. Info. :	I-PVC-01
Date of Sample Received :	05 Jun 2019
Testing Period :	05 Jun 2019 - 12 Jun 2019
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

Violet,Shi
Approved Signatory

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

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-106765.002	White liquid

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 62321-7-2:2017 , 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	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	8	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 Item(s)	Limit	Unit	MDL	*002*
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)	1,000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1,000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1,000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1,000	mg/kg	50	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25

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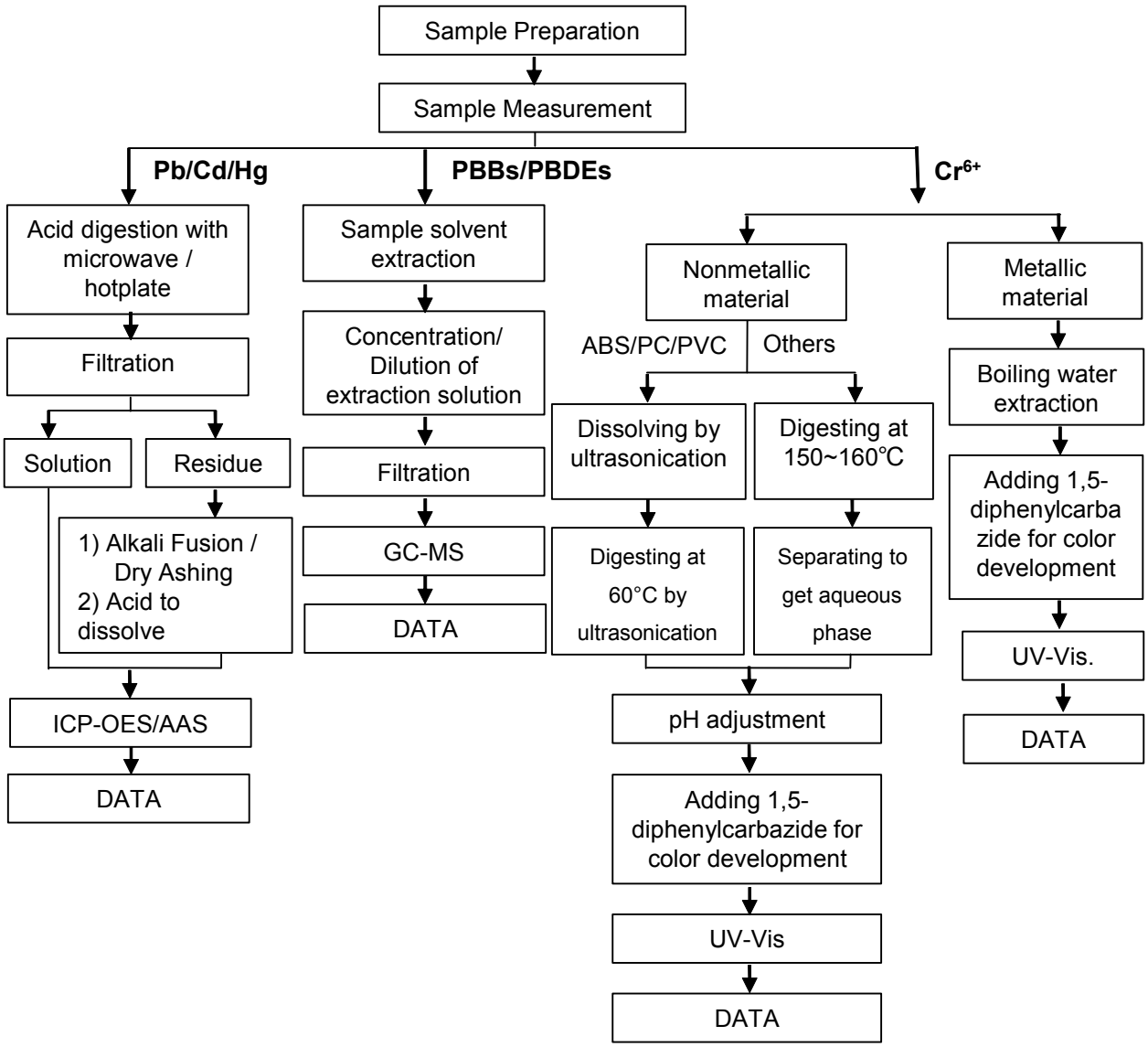
ATTACHMENTS

Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
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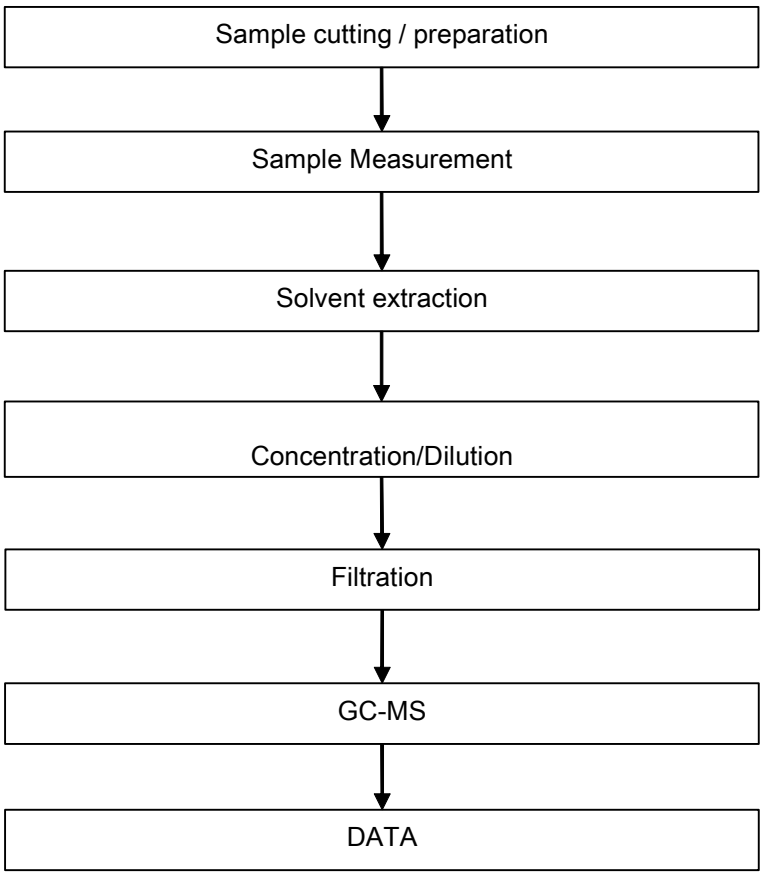
ATTACHMENTS

Phthalates Testing Flow Chart



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Sample photo:

CAN19-106765.002

SGS authenticate the photo on original report only

*** End of Report ***

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center Chemical Laboratory.
198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
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Test Report

Report No. A2190175998101034

Applicant REIHSING(DONGGUAN) ELECTRIC WIRE AND CABLE CO.,LTD

Address NO.18 LANYUAN ROAD XINAN VILLAGE CHANGAN TOWN DONGGUAN CITY GUANGDONG CHINA

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

Sample Name	BROWN PVC LF INSULATED WIRE
Part No.	UL1015 LF WIRE
Client Reference Information	UL1007,1015,1571,1061,1028,1032,1080，1095,1569,1581,1674,1500, 1283,1285，1011,1013,1497,1789,1685,1617,1672,1618,1010,1316,1429, 1430,1431,3443,3610,2468,2464,2444,20080,2555,2476,2697, 2733,2562,2096,1533,2547,20005,20276,2854,2851,1185,10070, 10198,SPT,(H)VSF,(H)VFF,(H)VCTF,(H)VCFK,H05V2-U, H05V2-K, AV,AVS,AVSS,CCC60227IEC02(RV)06(RV)08(RV-90)52(RVV)53(RVV), OR Other PVC insulated wire
Supplier	Reihsing
Sample Received Date	Jul. 15, 2019
Testing Period	Jul. 15, 2019 to Jul. 18, 2019

Test Requested 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), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Tested by Frank Zhang

Approved by Hill Zheng

Hill Zheng
Technical Manager

Reviewed by Tori Xia

Date Jul. 18, 2019

No. R338854670

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Report No. A2190175998101034

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2017	GC-MS

Test Report

Report No. A2190175998101034

Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb)	N.D.	2 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg
Mercury(Hg)	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Test Report

Report No. A2190175998101034

Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	96 mg/kg	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
Hexabromocyclododecane(HBCDD)	N.D.	5 mg/kg

Sample/Part Description Brown wire jacket

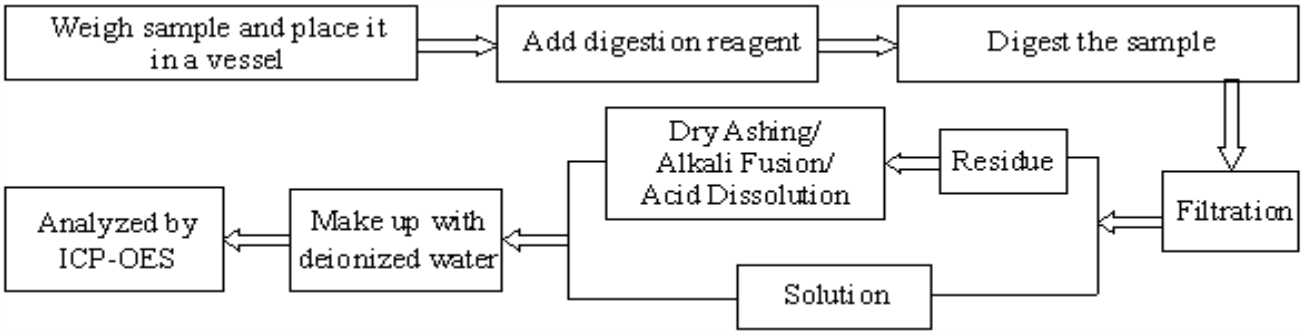
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

Test Report

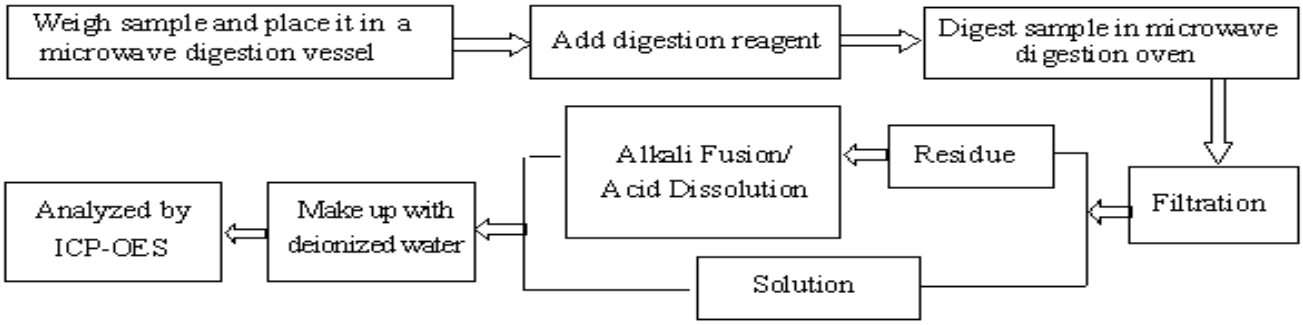
Report No. A2190175998101034

Test Process

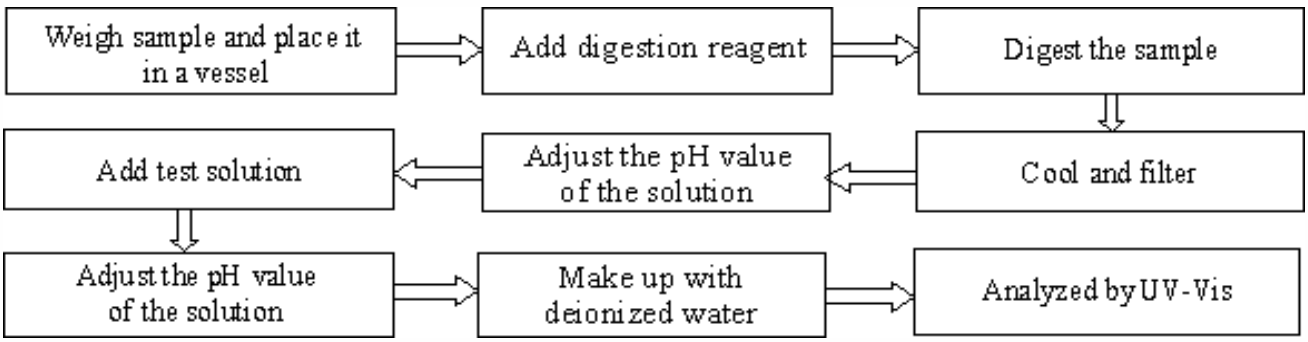
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



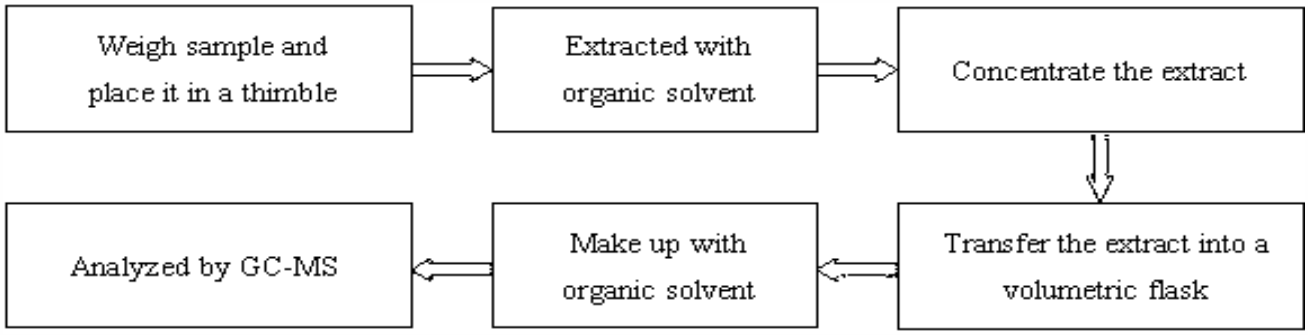
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))

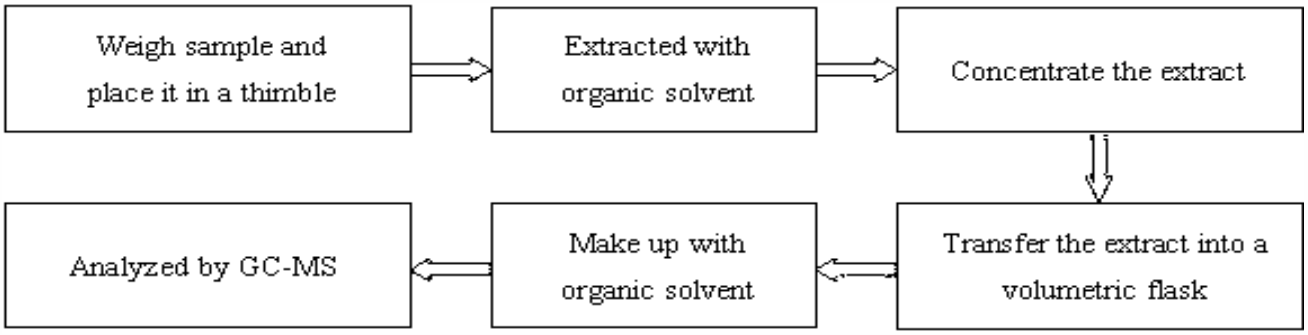


4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)

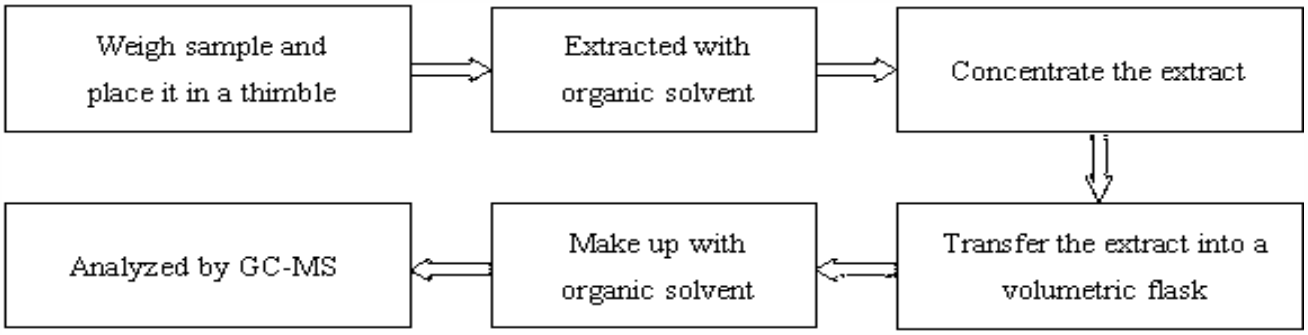


Test Report

5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Hexabromocyclododecane (HBCDD)



Test Report

Report No. A2190175998101034

Photo(s) of the sample(s)

*** End of report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

Test Report

Report No. A2190175998101028

Applicant REIHSING(DONGGUAN) ELECTRIC WIRE AND CABLE CO.,LTD

Address NO.18 LANYUAN ROAD XINAN VILLAGE CHANGAN TOWN DONGGUAN CITY GUANGDONG CHINA

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

Sample Name	GREEN PVC LF INSULATED WIRE
Part No.	UL1015 LF WIRE
Client Reference Information	UL1007,1015,1571,1061,1028,1032,1080， 1095,1569,1581,1674,1500, 1283,1285， 1011,1013,1497,1789,1685,1617,1672,1618,1010,1316,1429, 1430,1431,3443,3610,2468,2464,2444,20080,2555,2476,2697, 2733,2562,2096,1533,2547,20005,20276,2854,2851,1185,10070, 10198,SPT,(H)VSF,(H)VFF,(H)VCTF,(H)VCFK,H05V2-U, H05V2-K, AV,AVS,AVSS,CCC60227IEC02(RV)06(RV)08(RV-90)52(RVV)53(RVV), OR Other PVC insulated wire
Supplier	Reihsing
Sample Received Date	Jul. 15, 2019
Testing Period	Jul. 15, 2019 to Jul. 18, 2019

Test Requested 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), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Tested by Frank Zhang

Approved by Hill Zheng

Hill Zheng
Technical Manager

Reviewed by Tori Xia

Date Jul. 18, 2019

No. R338854670

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Report No. A2190175998101028

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2017	GC-MS

Test Report

Report No. A2190175998101028

Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb)	N.D.	2 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg
Mercury(Hg)	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Test Report

Report No. A2190175998101028

Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	350 mg/kg	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
Hexabromocyclododecane(HBCDD)	N.D.	5 mg/kg

Sample/Part Description Green wire jacket

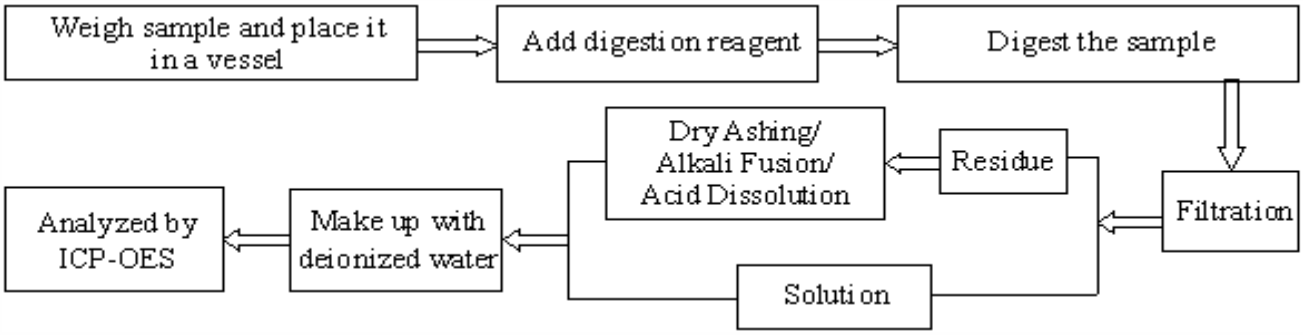
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

Test Report

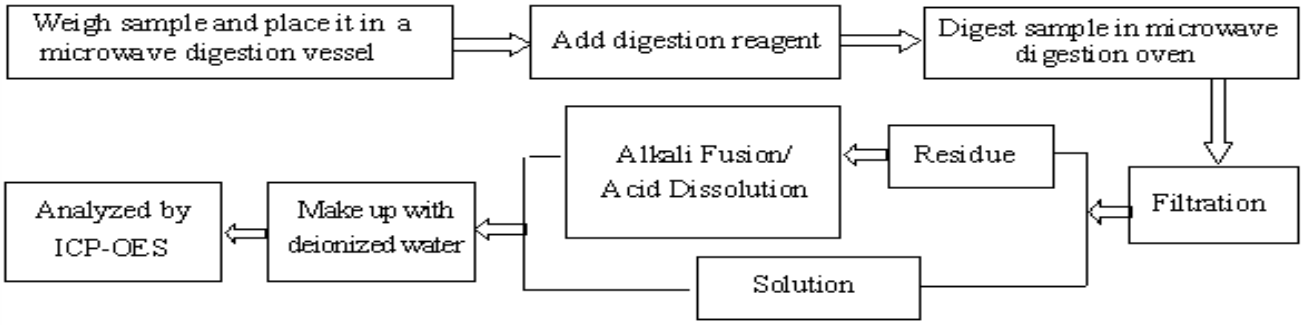
Report No. A2190175998101028

Test Process

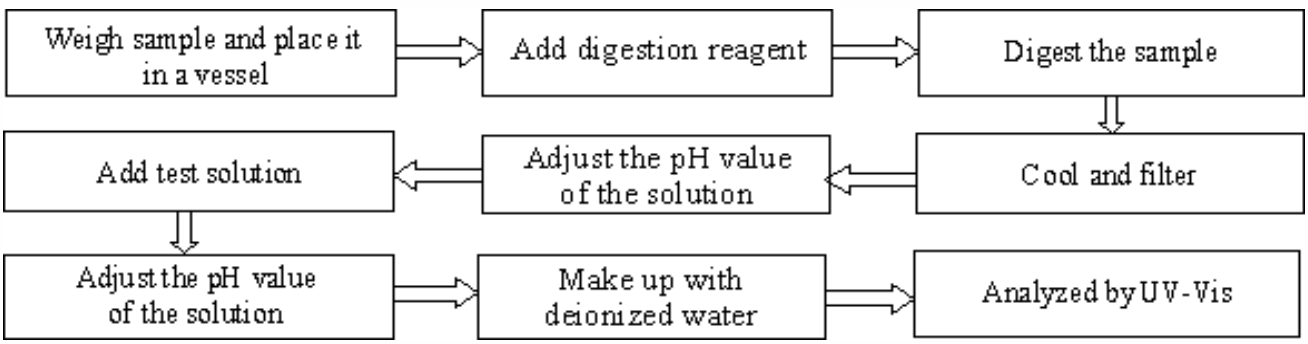
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



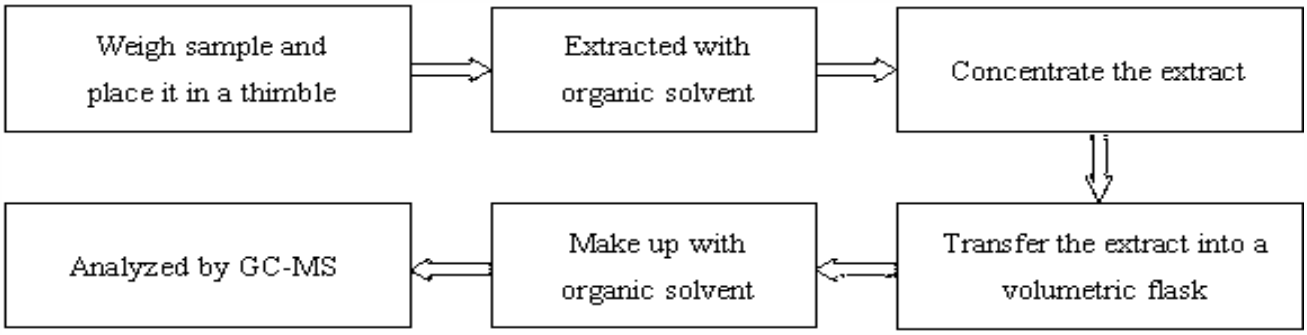
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))

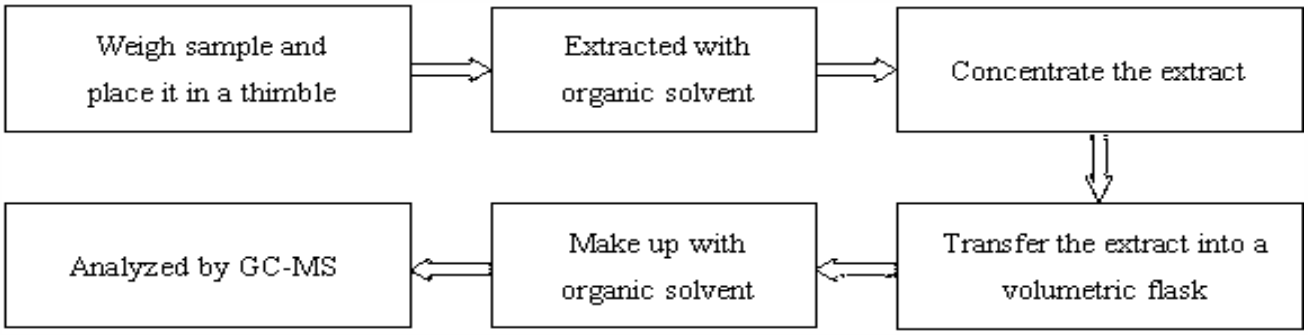


4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)

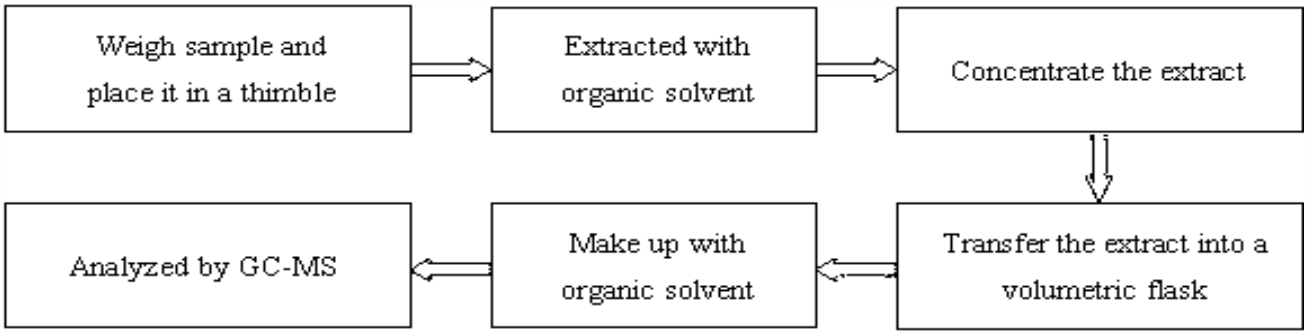


Test Report

5. Phthalates (DBP, BBP, DEHP, DIBP)



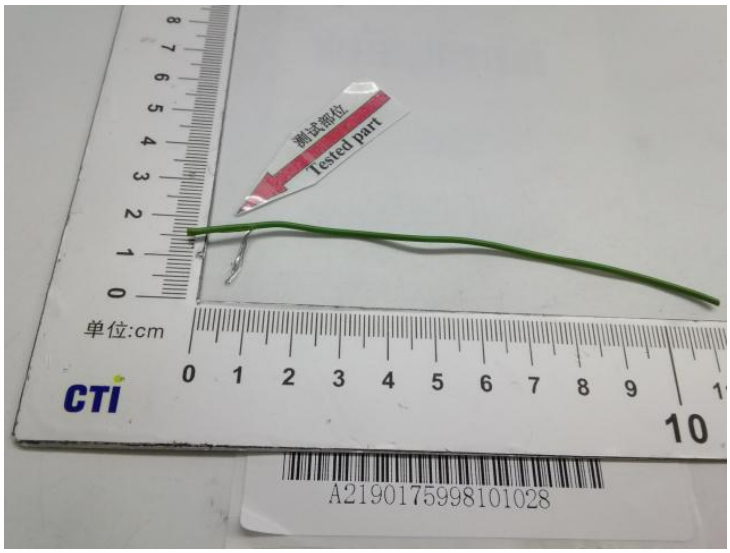
6. Hexabromocyclododecane (HBCDD)



Test Report

Report No. A2190175998101028

Photo(s) of the sample(s)



*** End of report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
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Test Report

Report No. A2190175998101019

Applicant REIHSING(DONGGUAN) ELECTRIC WIRE AND CABLE CO.,LTD

Address NO.18 LANYUAN ROAD XINAN VILLAGE CHANGAN TOWN DONGGUAN CITY GUANGDONG CHINA

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

Sample Name	YELLOW PVC LF INSULATED WIRE
Part No.	UL1015 LF WIRE
Client Reference Information	UL1007,1015,1571,1061,1028,1032,1080，1095,1569,1581,1674,1500, 1283,1285，1011,1013,1497,1789,1685,1617,1672,1618,1010,1316,1429, 1430,1431,3443,3610,2468,2464,2444,20080,2555,2476,2697, 2733,2562,2096,1533,2547,20005,20276,2854,2851,1185,10070, 10198,SPT,(H)VSF,(H)VFF,(H)VCTF,(H)VCFK,H05V2-U, H05V2-K, AV,AVS,AVSS,CCC60227IEC02(RV)06(RV)08(RV-90)52(RVV)53(RVV), OR Other PVC insulated wire
Supplier	Reihsing
Sample Received Date	Jul. 15, 2019
Testing Period	Jul. 15, 2019 to Jul. 18, 2019

Test Requested 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), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Tested by Frank Zhang

Approved by Hill Zheng

Hill Zheng
Technical Manager

Reviewed by Tori Xia

Date Jul. 18, 2019

No. R338854670

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Report No. A2190175998101019

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2017	GC-MS

Test Report

Report No. A2190175998101019

Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb)	N.D.	2 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg
Mercury(Hg)	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Test Report

Report No. A2190175998101019

Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	101 mg/kg	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
Hexabromocyclododecane(HBCDD)	N.D.	5 mg/kg

Sample/Part Description Yellow wire jacket

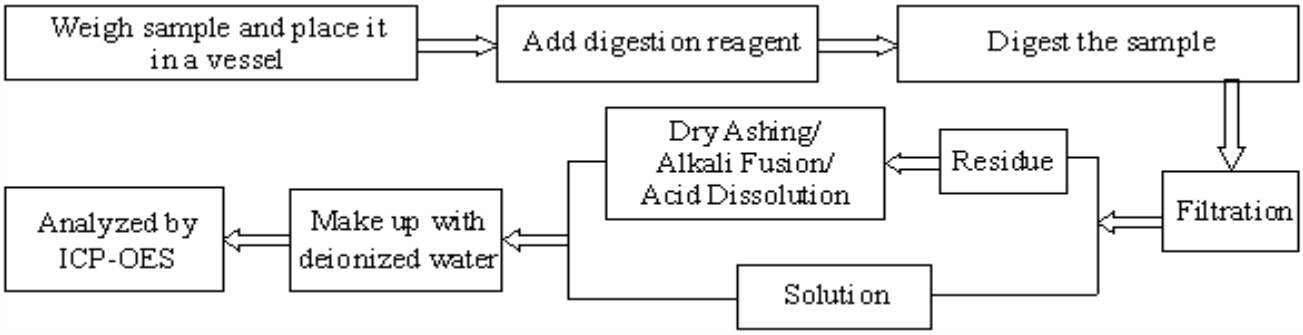
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

Test Report

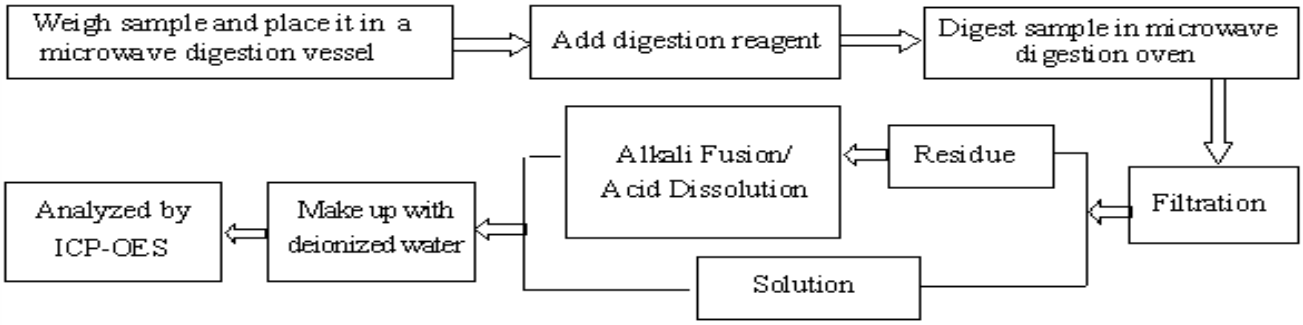
Report No. A2190175998101019

Test Process

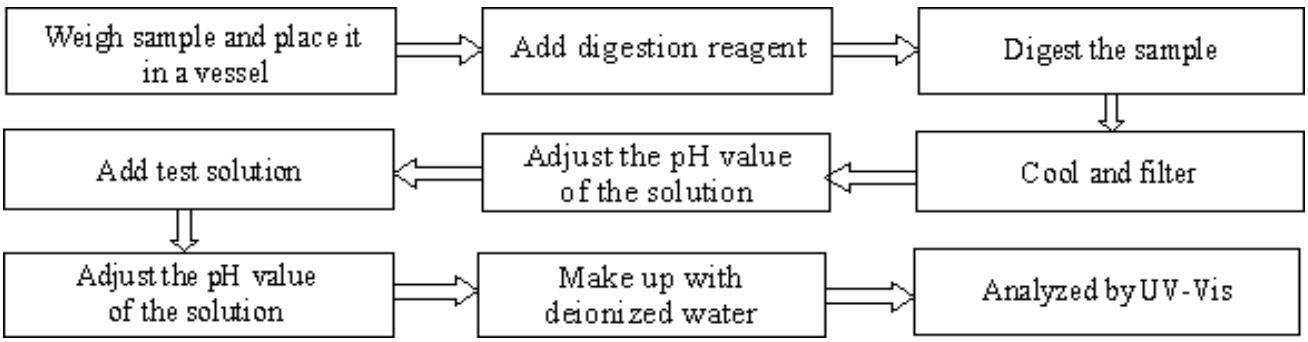
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



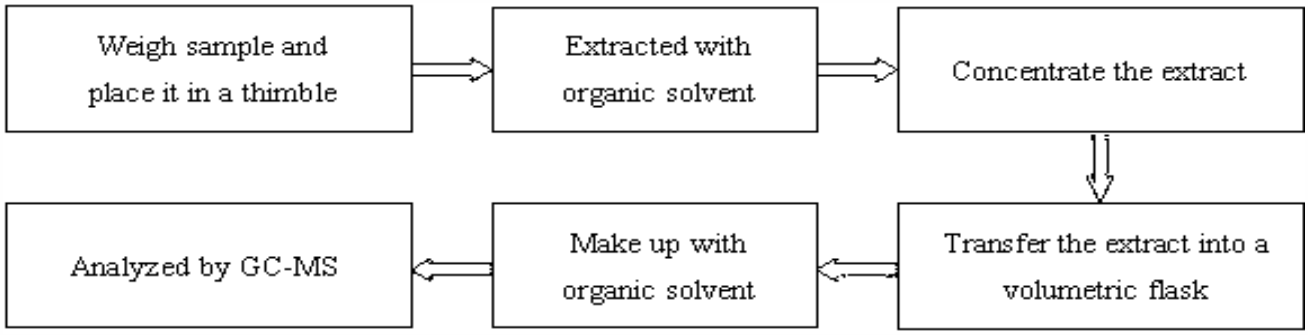
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))

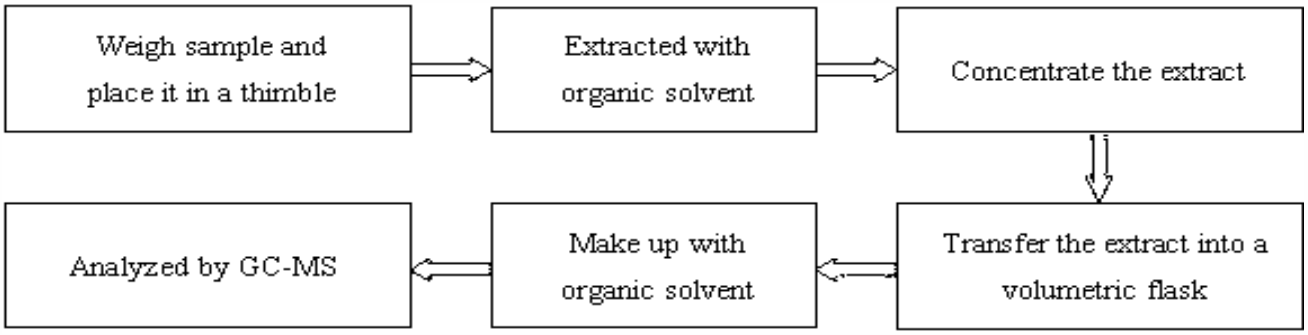


4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)

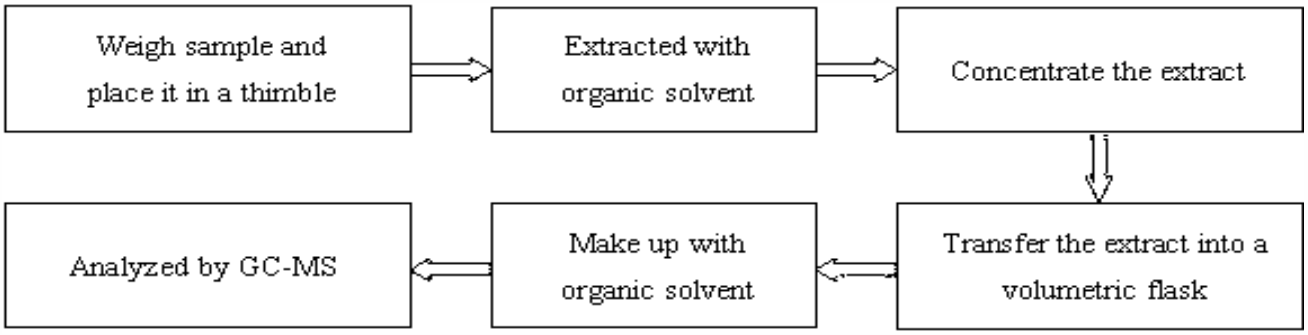


Test Report

5. Phthalates (DBP, BBP, DEHP, DIBP)



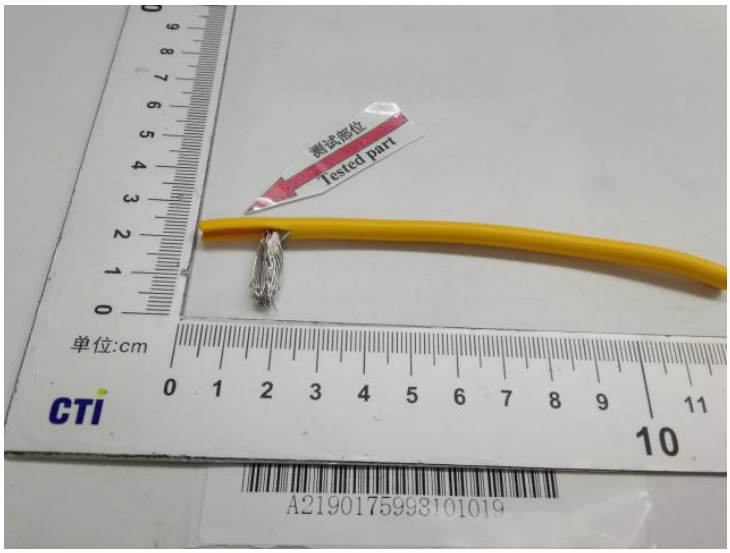
6. Hexabromocyclododecane (HBCDD)



Test Report

Report No. A2190175998101019

Photo(s) of the sample(s)



*** End of report ***

Statement:

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2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
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Test Report

Report No. A2190175998101013

Applicant REIHSING(DONGGUAN) ELECTRIC WIRE AND CABLE CO.,LTD

Address NO.18 LANYUAN ROAD XINAN VILLAGE CHANGAN TOWN DONGGUAN CITY GUANGDONG CHINA

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

Sample Name	RED PVC LF INSULATED WIRE
Part No.	UL1015 LF WIRE
Client Reference Information	UL1007,1015,1571,1061,1028,1032,1080，1095,1569,1581,1674,1500, 1283,1285，1011,1013,1497,1789,1685,1617,1672,1618,1010,1316,1429, 1430,1431,3443,3610,2468,2464,2444,20080,2555,2476,2697, 2733,2562,2096,1533,2547,20005,20276,2854,2851,1185,10070, 10198,SPT,(H)VSF,(H)VFF,(H)VCTF,(H)VCFK,H05V2-U, H05V2-K, AV,AVS,AVSS,CCC60227IEC02(RV)06(RV)08(RV-90)52(RVV)53(RVV), OR Other PVC insulated wire
Supplier	Reihsing
Sample Received Date	Jul. 15, 2019
Testing Period	Jul. 15, 2019 to Jul. 18, 2019

Test Requested 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), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Tested by Frank Zhang

Approved by Hill Zheng

Hill Zheng
Technical Manager

Reviewed by Tori Xia

Date Jul. 18, 2019

No. R338854670

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Report No. A2190175998101013

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2017	GC-MS

Test Report

Report No. A2190175998101013

Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb)	N.D.	2 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg
Mercury(Hg)	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Test Report

Report No. A2190175998101013

Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	101 mg/kg	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
Hexabromocyclododecane(HBCDD)	N.D.	5 mg/kg

Sample/Part Description Red wire jacket

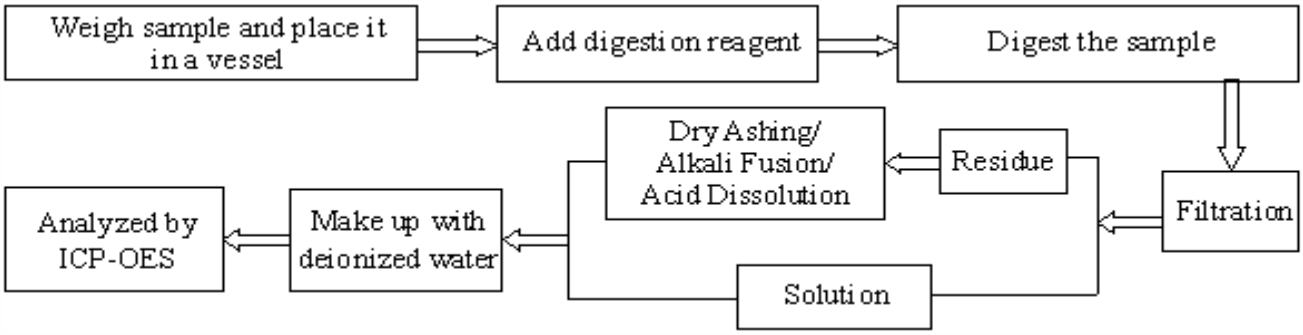
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

Test Report

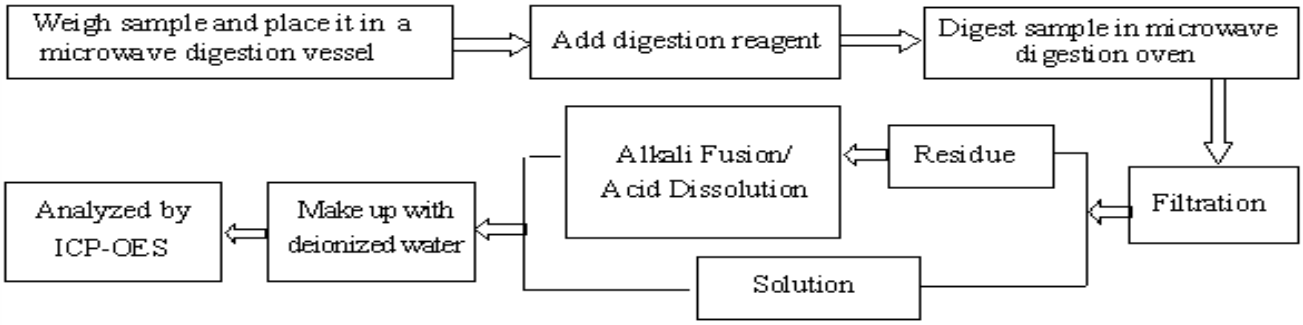
Report No. A2190175998101013

Test Process

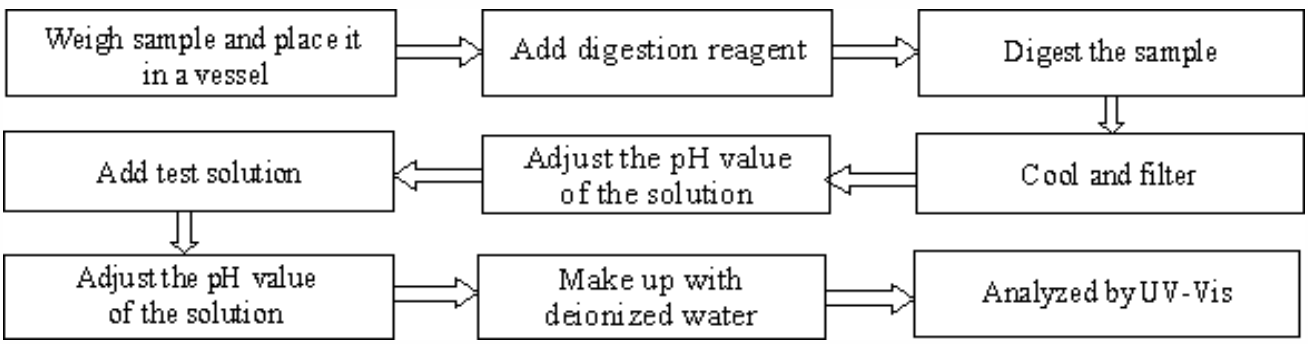
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



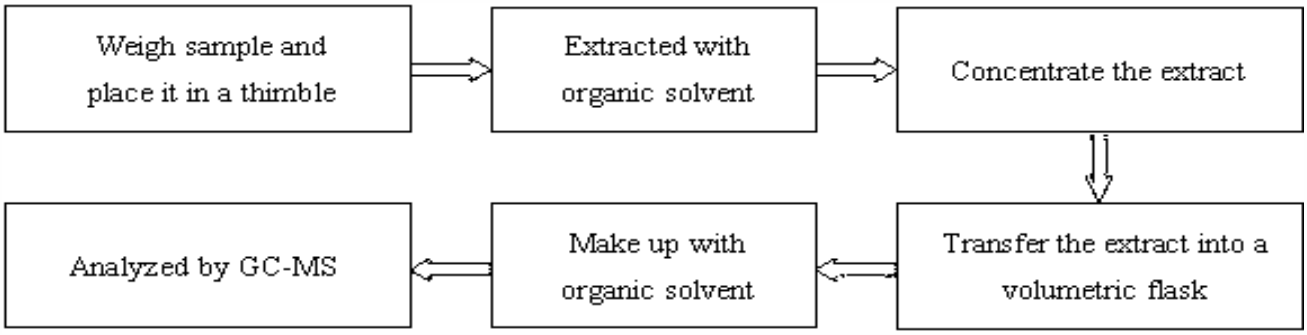
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))

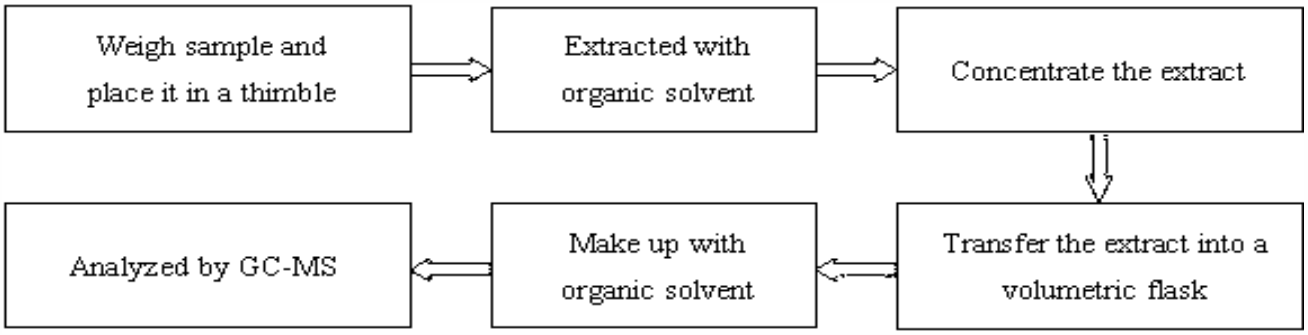


4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)

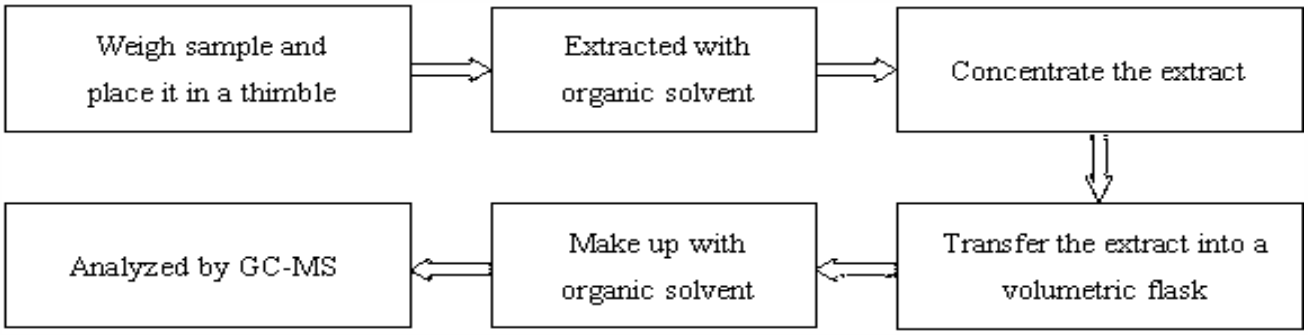


Test Report

5. Phthalates (DBP, BBP, DEHP, DIBP)



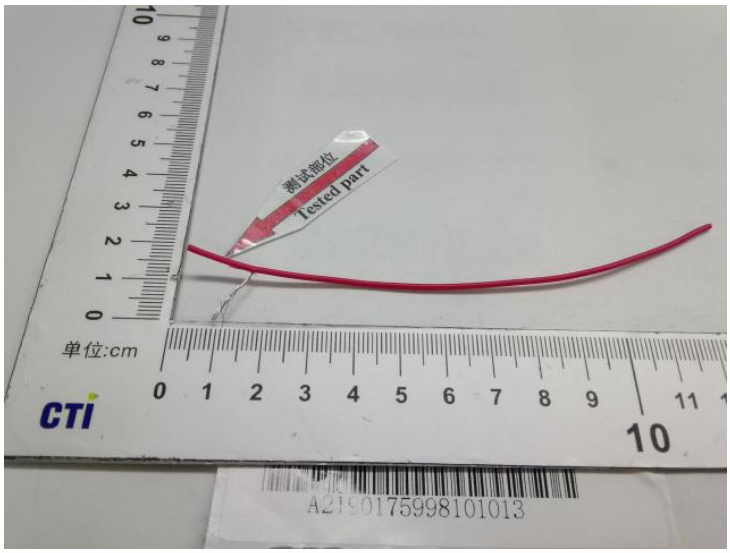
6. Hexabromocyclododecane (HBCDD)



Test Report

Report No. A2190175998101013

Photo(s) of the sample(s)



*** End of report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

Test Report

Report No. A2190175998101010

Applicant REIHSING(DONGGUAN) ELECTRIC WIRE AND CABLE CO.,LTD

Address NO.18 LANYUAN ROAD XINAN VILLAGE CHANGAN TOWN DONGGUAN CITY GUANGDONG CHINA

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

Sample Name	BLACK PVC LF INSULATED WIRE
Part No.	UL1015 LF WIRE
Client Reference Information	UL1007,1015,1571,1061,1028,1032,1080， 1095,1569,1581,1674,1500, 1283,1285， 1011,1013,1497,1789,1685,1617,1672,1618,1010,1316,1429, 1430,1431,3443,3610,2468,2464,2444,20080,2555,2476,2697, 2733,2562,2096,1533,2547,20005,20276,2854,2851,1185,10070, 10198,SPT,(H)VSF,(H)VFF,(H)VCTF,(H)VCFK,H05V2-U, H05V2-K, AV,AVS,AVSS,CCC60227IEC02(RV)06(RV)08(RV-90)52(RVV)53(RVV), OR Other PVC insulated wire
Supplier	Reihsing
Sample Received Date	Jul. 15, 2019
Testing Period	Jul. 15, 2019 to Jul. 18, 2019

Test Requested 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), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Tested by Frank Zhang

Approved by Hill Zheng

Hill Zheng
Technical Manager

Reviewed by Tori Xia

Date Jul. 18, 2019

No. R338854670

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Report No. A2190175998101010

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2017	GC-MS

Test Report

Report No. A2190175998101010

Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb)	N.D.	2 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg
Mercury(Hg)	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Test Report

Report No. A2190175998101010

Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	138 mg/kg	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
Hexabromocyclododecane(HBCDD)	N.D.	5 mg/kg

Sample/Part Description Black wire jacket

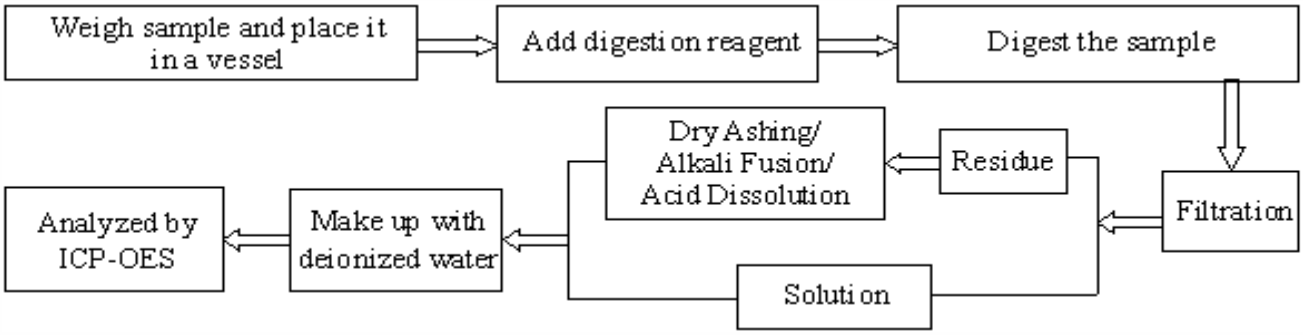
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

Test Report

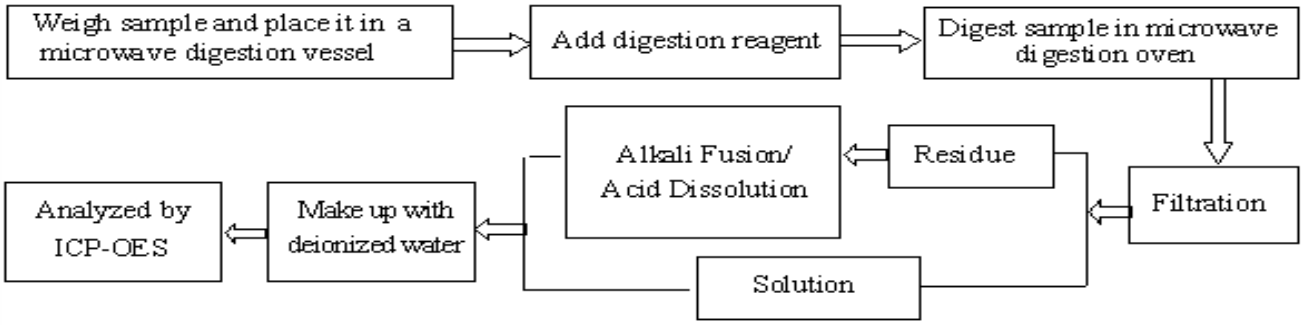
Report No. A2190175998101010

Test Process

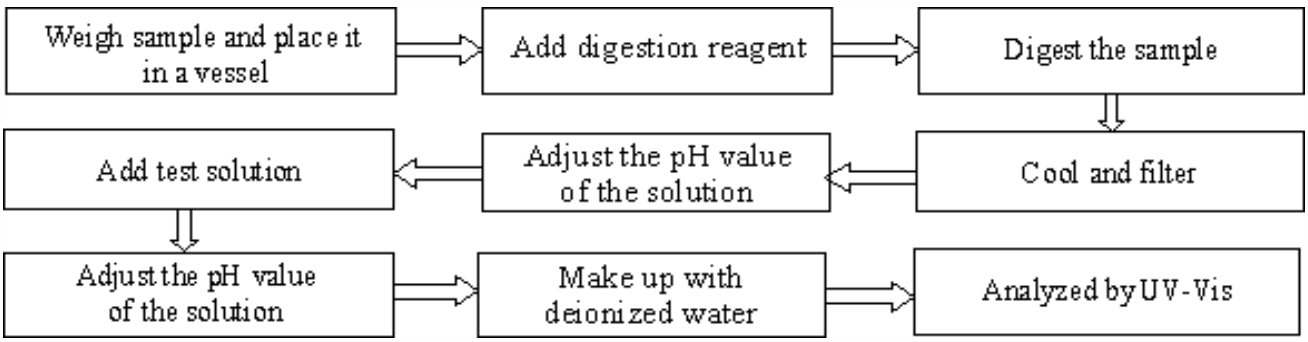
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



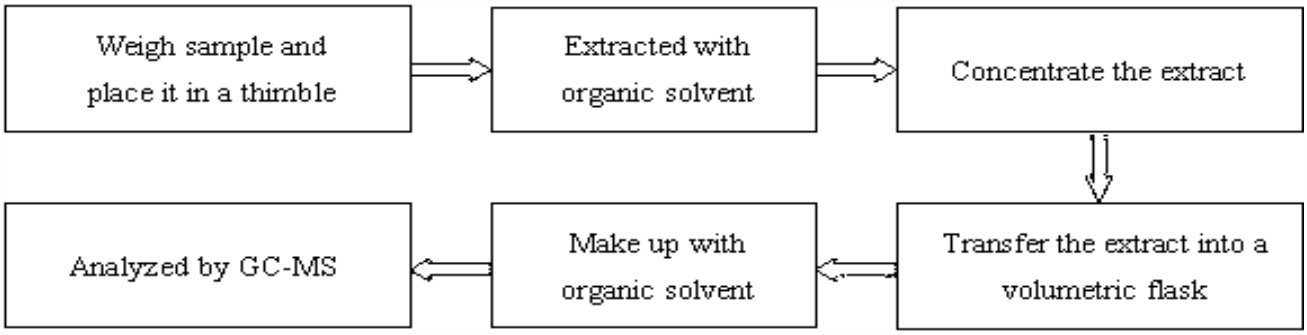
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))

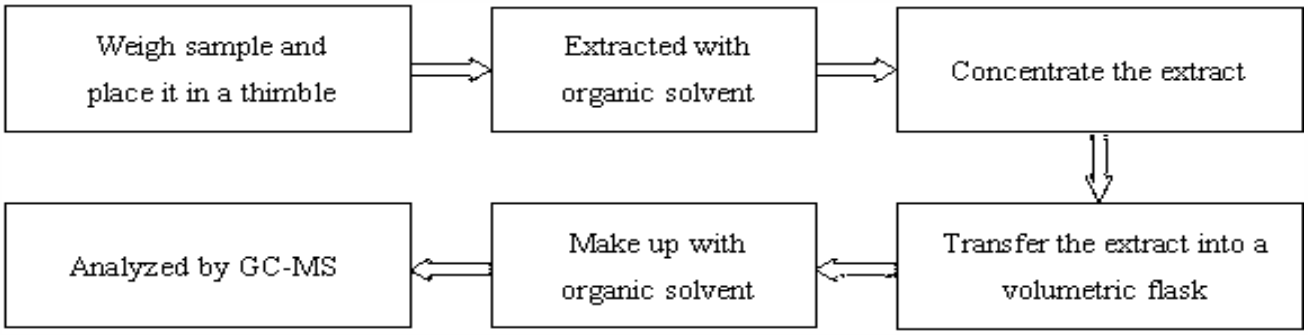


4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)

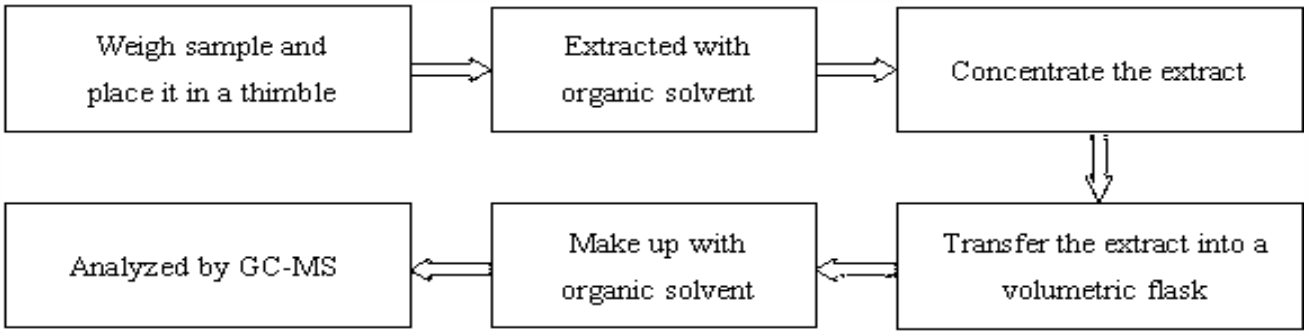


Test Report

5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Hexabromocyclododecane (HBCDD)



Test Report

Report No. A2190175998101010

Photo(s) of the sample(s)

*** End of report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
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Test Report

Report No. A2190175998101004

Applicant REIHSING(DONGGUAN) ELECTRIC WIRE AND CABLE CO.,LTD

Address NO.18 LANYUAN ROAD XINAN VILLAGE CHANGAN TOWN DONGGUAN CITY GUANGDONG CHINA

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

Sample Name	ORANGE PVC LF INSULATED WIRE
Part No.	UL1015 LF WIRE
Client Reference Information	UL1007,1015,1571,1061,1028,1032,1080， 1095,1569,1581,1674,1500, 1283,1285， 1011,1013,1497,1789,1685,1617,1672,1618,1010,1316,1429, 1430,1431,3443,3610,2468,2464,2444,20080,2555,2476,2697, 2733,2562,2096,1533,2547,20005,20276,2854,2851,1185,10070, 10198,SPT,(H)VSF,(H)VFF,(H)VCTF,(H)VCFK,H05V2-U, H05V2-K, AV,AVS,AVSS,CCC60227IEC02(RV)06(RV)08(RV-90)52(RVV)53(RVV), OR Other PVC insulated wire
Supplier	Reihsing
Sample Received Date	Jul. 15, 2019
Testing Period	Jul. 15, 2019 to Jul. 18, 2019

Test Requested 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), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Tested by Frank Zhang

Approved by Hill Zheng

Hill Zheng
Technical Manager

Reviewed by Tori Xia

Date Jul. 18, 2019

No. R338854670

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Report No. A2190175998101004

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2017	GC-MS

Test Report

Report No. A2190175998101004

Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb)	N.D.	2 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg
Mercury(Hg)	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Test Report

Report No. A2190175998101004

Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	88 mg/kg	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
Hexabromocyclododecane(HBCDD)	N.D.	5 mg/kg

Sample/Part Description Orange wire jacket

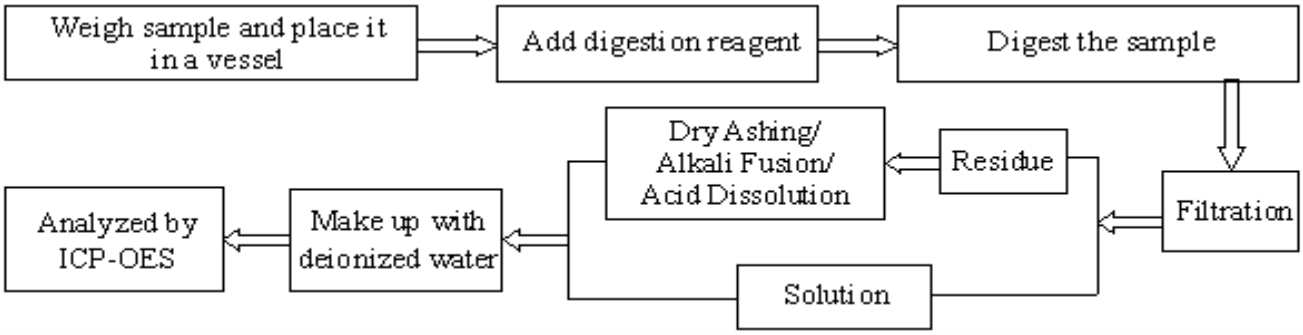
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

Test Report

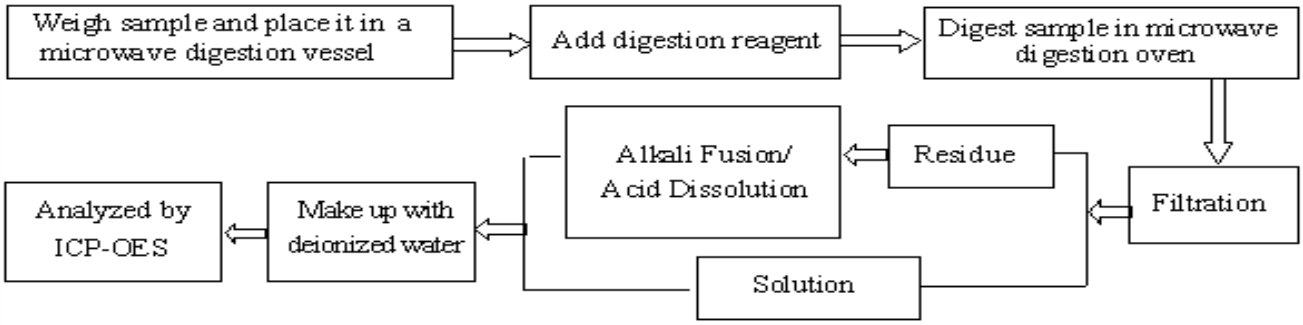
Report No. A2190175998101004

Test Process

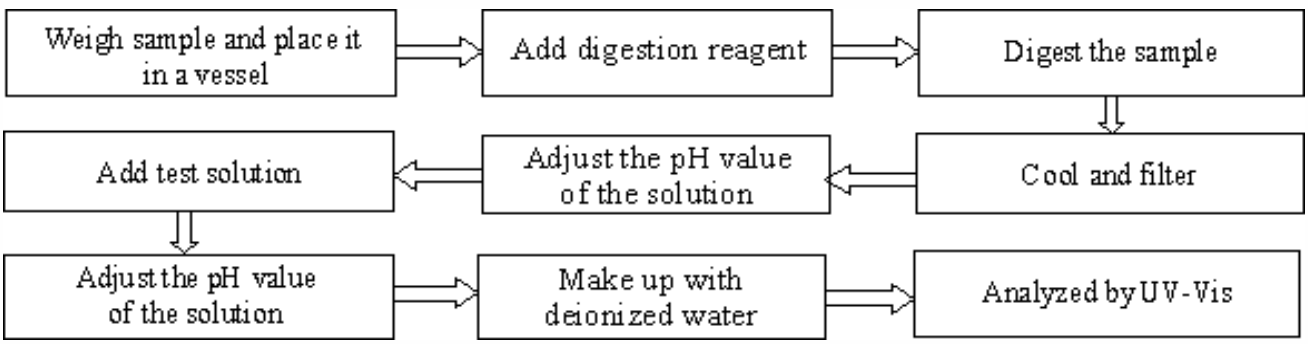
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



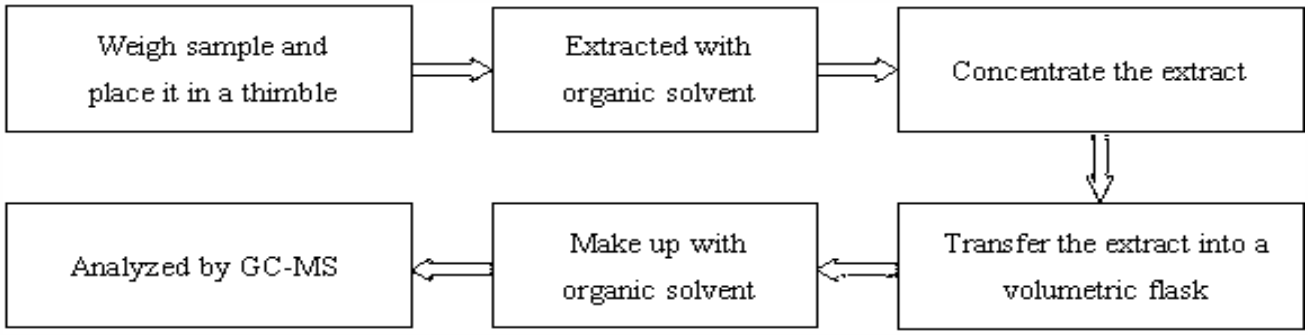
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))

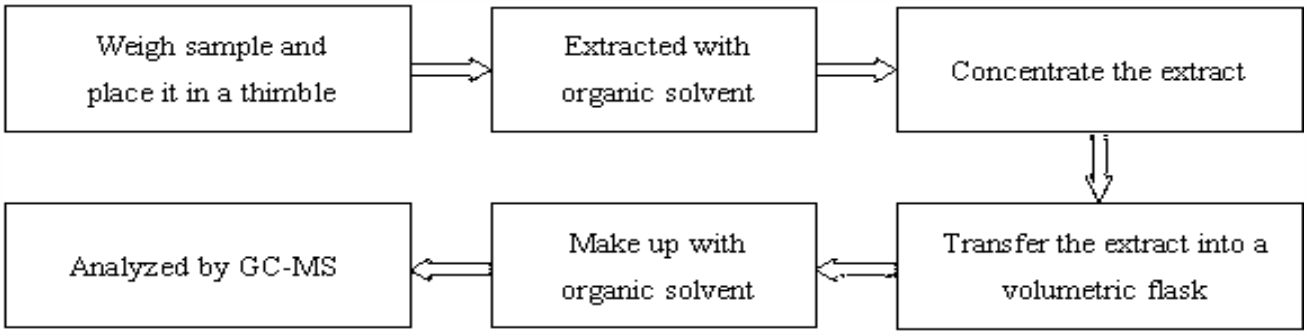


4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)

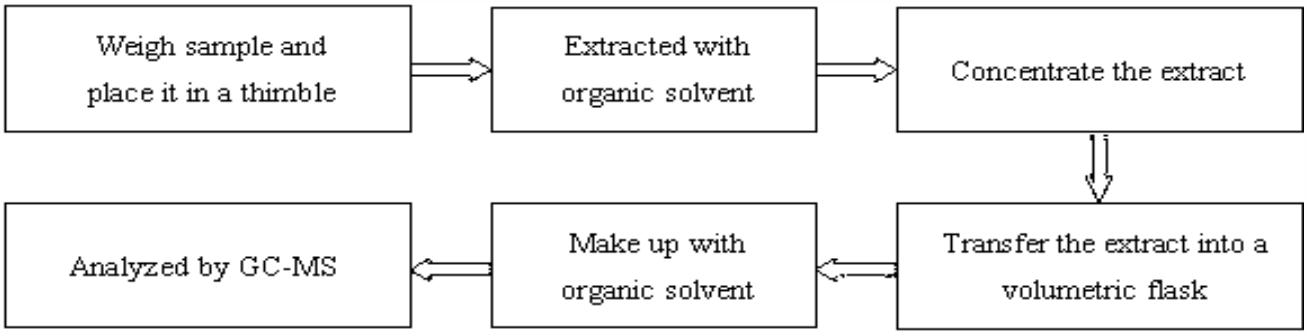


Test Report

5. Phthalates (DBP, BBP, DEHP, DIBP)



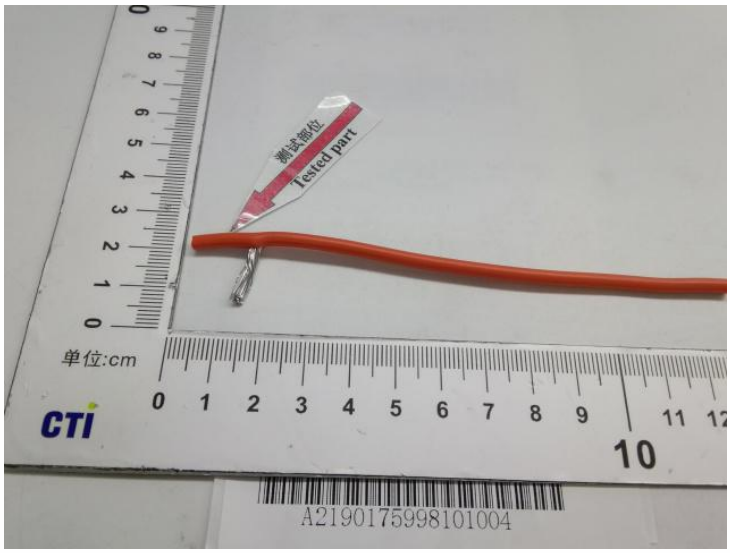
6. Hexabromocyclododecane (HBCDD)



Test Report

Report No. A2190175998101004

Photo(s) of the sample(s)



*** End of report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

Test Report

No. CANEC1904032401 Date: 21 Mar 2019 Page 1 of 7

DONGGUAN LUCKY FLY CONDUCTOR CO.,LTD

QIAO ZI REGION CHANG PING TOWN DONG GUAN CITY GUANG DONG PROVINCE
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : BARE COPPER WIRE

SGS Job No. :	CP19-011773 - GZ
Date of Sample Received :	15 Mar 2019
Testing Period :	15 Mar 2019 - 21 Mar 2019
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

Violet Shi

Violet,Shi
Approved Signatory

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

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-040324.001	Copper colored metal wire

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 , 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	5
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▾	-	µg/cm²	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

Test Item(s)	Limit	Unit	MDL	*001*
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.IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(2) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². 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/cm²). The coating is considered a non-CrVI based coating

c. The result between 0.10 μg/cm² and 0.13 μg/cm² 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.

Elementary Analysis

Test Method : SGS In-house method (GZTC CHEM-TOP-009-01, with reference to US EPA Method 3050B:1996), analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	*001*
Beryllium (Be)	mg/kg	5	ND

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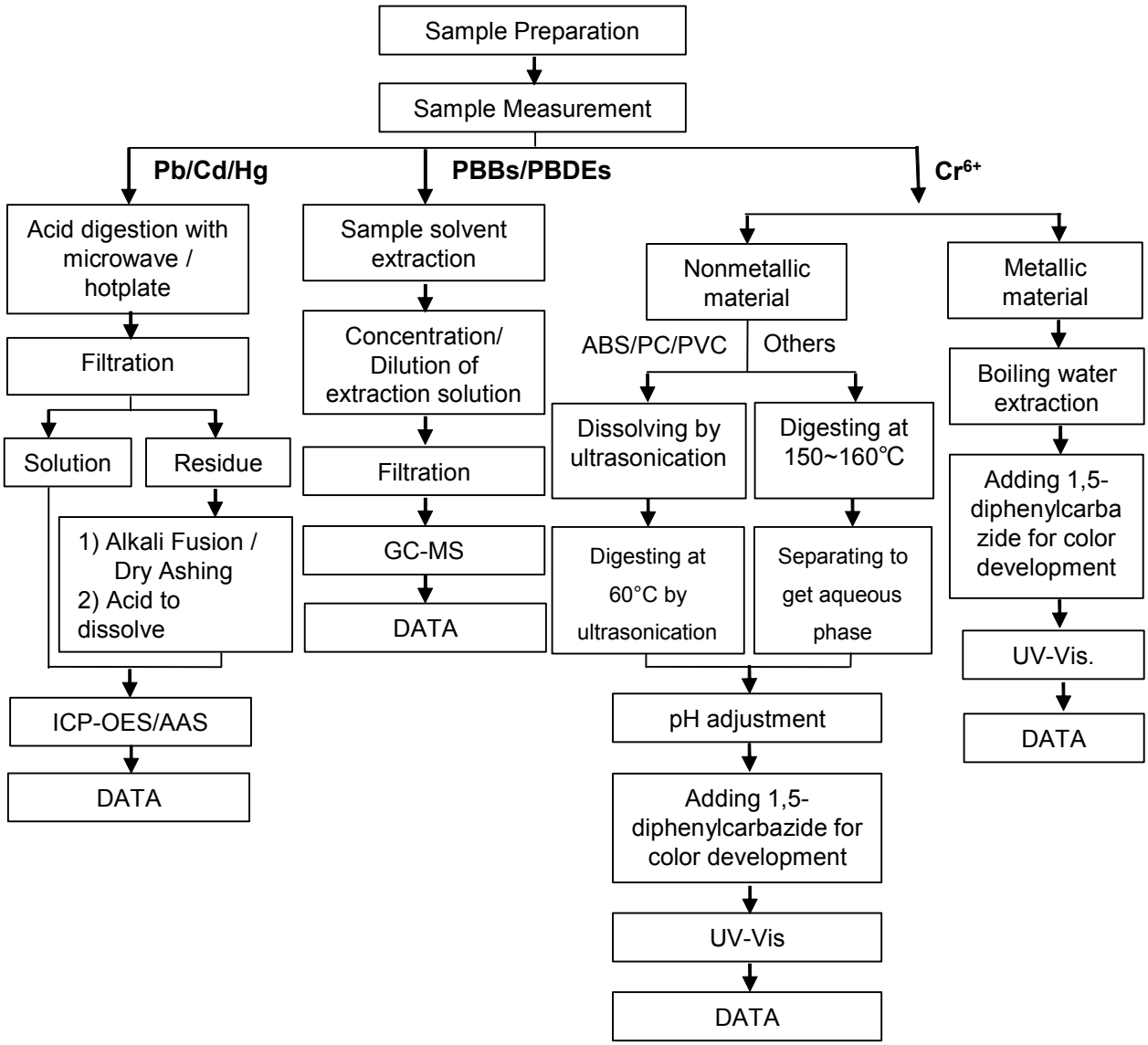
ATTACHMENTS

Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
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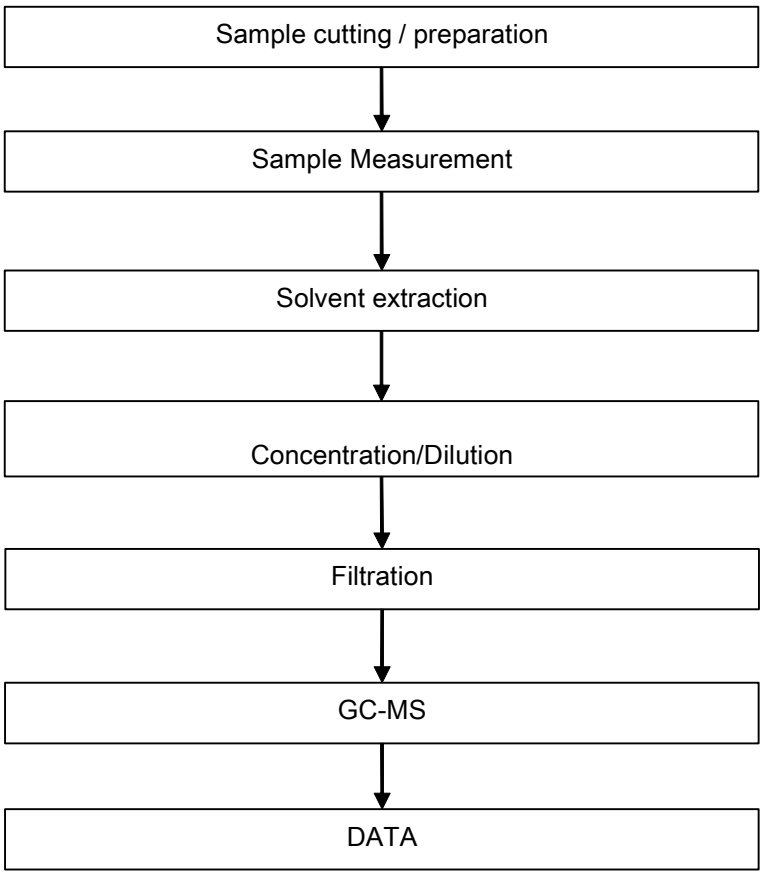
ATTACHMENTS

Phthalates Testing Flow Chart



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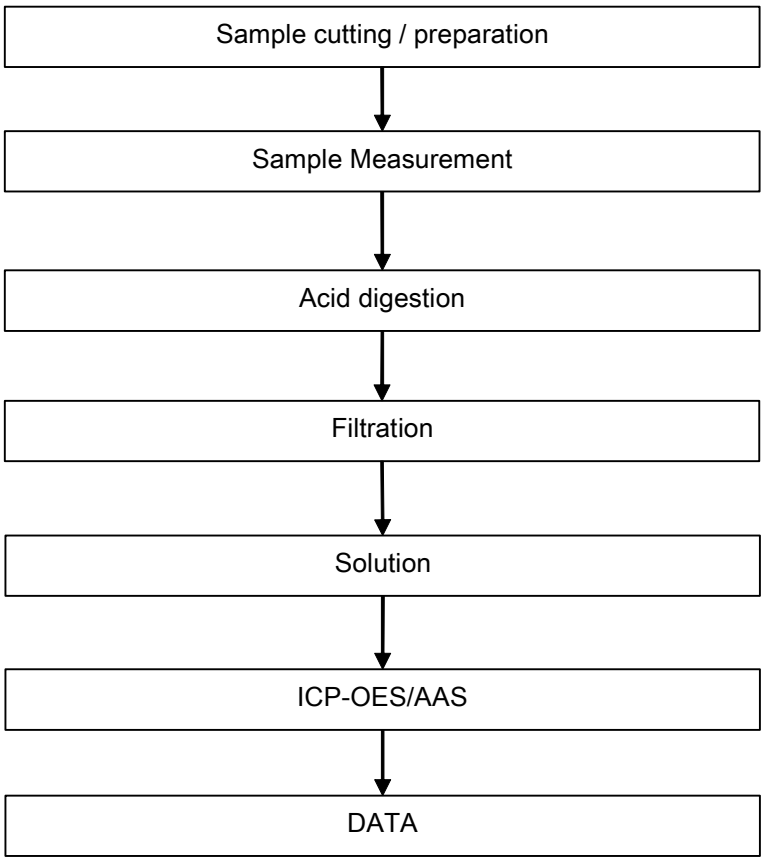
ATTACHMENTS

Elementary Testing Flow Chart



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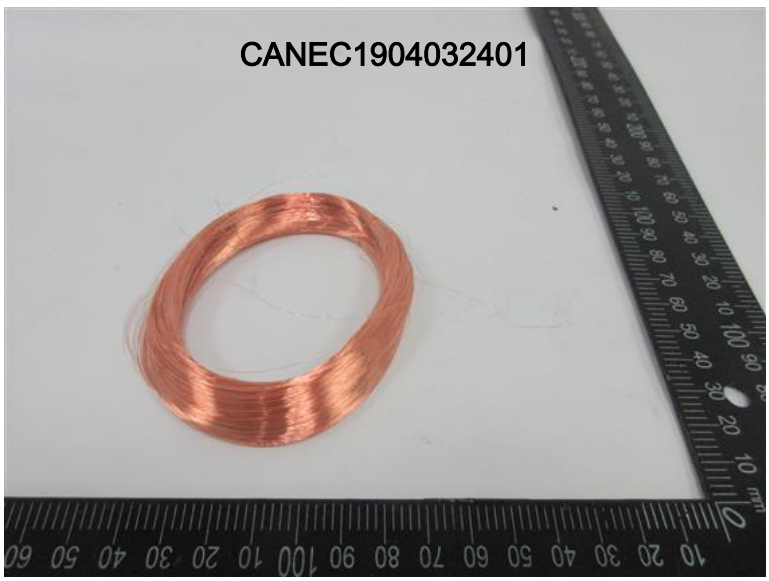
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Sample photo:



CAN19-040324.001

SGS authenticate the photo on original report only

*** End of Report ***

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198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Report (SVHC)

DONGGUAN LUCKY FLY CONDUCTOR CO.,LTD
QIAO ZI REGION CHANG PING TOWN DONG GUAN CITY GUANG DONG PROVINCE
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : BARE COPPER WIRE, TINNED COPPER WIRE

SGS Job No. :	CP19-011773 - GZ
Date of Sample Received :	15 Mar 2019
Testing Period :	15 Mar 2019 - 21 Mar 2019
Test Requested :	As requested by client, SVHC screening is performed according to: (i) One hundred and ninety seven (197) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jan 15, 2019 regarding Regulation (EC) No 1907/2006 concerning the REACH. (ii) Additional One (1) Substances of Very High Concern (SVHC) identified by the notification of WTO on Feb 7, 2019.
Test Results :	Please refer to next page(s).

Summary :

According to the specified scope and evaluation screening, the test results of SVHC are ≤ 0.1% (w/w) in the submitted sample.	PASS

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

Violet,Shi
Approved Signatory

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Remark :

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA: http://echa.europa.eu/web/guest/candidate-list-table
   These lists are under evaluation by ECHA and may subject to change in the future.
2. REACH obligation:
   2.1 Concerning article(s):
   Communication:
   Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.

   Notification:
   In accordance with Regulation (EC) No 1907/2006, any EU producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance in the Candidate List is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance in the Candidate List is present in those articles above a concentration of 0.1% weight by weight (w/w).

   SGS adopts the ruling of the Court of Justice of the European Union on the definition of an article under REACH unless indicated otherwise. Detail explanation is available at the following link:
   http://www.sgs.com/-/media/global/documents/technical-documents/technical-bulletins/sgs-crs-position-statement-on-svhc-in-articles-a4-en-16-06.pdf?la=en

   2.2 Concerning material(s):
   Test results in this report are based on the tested sample. This report refers to testing result of tested sample submitted as homogenous material(s). In case such material is being used to compose an article, the results indicated in this report may not represent SVHC concentration in such article. If this report refers to testing result of composite material group by equal weight proportion, the material in each composite test group may come from more than one article.

   If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

   2.3 Concerning substance and preparation:
   If a SVHC is found over 0.1% (w/w) and/or the specific concentration limit which is set in Regulation (EC) No 1272/2008 and its amendments, client is suggested to prepare a Safety

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Data Sheet (SDS) against the SVHC to comply with the supply chain communication obligation under Regulation (EC) No 1907/2006, in which:
- a substance that is classified as hazardous under the CLP Regulation (EC) No 1272/2008.
- a mixture that is classified as hazardous under the CLP Regulation (EC) No 1272/2008, when it contains a substance with concentration equal to, or greater than the classification limit as set in Regulation (EC) No. 1272/2008; or
- a mixture is not classified as hazardous under the CLP Regulation (EC) No 1272/2008, but contains either:
(a) a substance posing human health or environmental hazards in an individual concentration of ≥ 1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or ≥ 0.2 % by volume for gaseous mixtures; or
(b) a substance that is PBT, or vPvB in an individual concentration of ≥ 0.1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures); or
(c) a substance on the SVHC candidate list (for reasons other than those listed above), in an individual concentration of ≥ 0.1 % by weight for non-gaseous mixtures; or
(d) a substance for which there are Europe-wide workplace exposure limits.

3. If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

Test Sample :

Sample Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-040324.003	Copper colored metal wire(a)+silvery plated metal wire(b)

Test Method :

SGS In-House method- GZTC CHEM-TOP-092-01, GZTC CHEM-TOP-092-02, Analyzed by ICP-OES, UV-VIS, GC-MS, HPLC-DAD/MS and Colorimetric Method.

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(SVHC)

Test Result: (Substances in the Candidate List of SVHC)

Batch	Substance Name	CAS No.	003 Concentration (%)	RL (%)
-	All tested SVHC in candidate list	-	ND	-

Test Result:(Additional SVHC)

Batch	Substance Name	CAS No.	003 Concentration (%)	RL (%)
-	All tested SVHC	-	ND	-

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Notes :

1.The table above only shows detected SVHC, and SVHC that below RL are not reported. Please refer to Appendix for the full list of tested SVHC.
2.RL = Reporting Limit. All RL are based on homogenous material.ND = Not detected (lower than RL), ND is denoted on the SVHC substance.
3.* The test result is based on the calculation of selected element(s) and to the worst-case scenario.
** The test result is based on the calculation of selected marker(s) and to the worst-case scenario.
For detail information, please refer to the SGS REACH website:
http://www.sgs.com/en/Consumer-Goods-Retail/Toys-and-Juvenile-Products/Toys/REACH/Management-of-SVHC.aspx
4. RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, chromium (VI), aluminum, zirconium, boron, strontium, zinc, antimony, cadmium, titanium and barium respectively), except molybdenum RL=0.0005%, boron RL=0.0025% (only for Lead bis(tetrafluoroborate)).
5. Calculated concentration of boric compounds are based on the water extractive boron by ICP-OES.
6. Δ CAS No. of diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD): 134237-50-6, 134237-51-7, 134237-52-8.
7. ☆ CAS No. of Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride: 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9; EC No. of those: 247-094-1, 243-072-0, 256-356-4, 260-566-1.
8. § The substance is proposed for the identification as SVHC only where it contains Michler's ketone (CAS Number: 90-94-8) or Michler's base (CAS Number: 101-61-1) ≥0.1% (w/w).
9.Add. = Additional identified SVHC
10. Composite test has been performed in equal proportion for the components/material per client requested. And the result is calculated using the minimum sample weight.

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center Chemical Laboratory.
198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
I	1	4,4' -Diaminodiphenylmethane(MDA)	101-77-9	0.050
I	2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	0.050
I	3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.050
I	4	Anthracene	120-12-7	0.050
I	5	Benzyl butyl phthalate (BBP)	85-68-7	0.050
I	6	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	0.050
I	7	Bis(tributyltin)oxide (TBTO)	56-35-9	0.050
I	8	Cobalt dichloride*	7646-79-9	0.005
I	9	Diarsenic pentaoxide*	1303-28-2	0.005
I	10	Diarsenic trioxide*	1327-53-3	0.005
I	11	Dibutyl phthalate (DBP)	84-74-2	0.050
I	12	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD)△	25637-99-4,3194-55-6	0.050
I	13	Lead hydrogen arsenate*	7784-40-9	0.005
I	14	Sodium dichromate*	7789-12-0, 10588-01-9	0.005
I	15	Triethyl arsenate*	15606-95-8	0.005
II	16	2,4-Dinitrotoluene	121-14-2	0.050
II	17	Acrylamide	79-06-1	0.050
II	18	Anthracene oil**	90640-80-5	0.050
II	19	Anthracene oil, anthracene paste**	90640-81-6	0.050
II	20	Anthracene oil, anthracene paste, anthracene fraction**	91995-15-2	0.050

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
II	21	Anthracene oil, anthracene paste, distn. lights**	91995-17-4	0.050
II	22	Anthracene oil, anthracene-low**	90640-82-7	0.050
II	23	Diisobutyl phthalate	84-69-5	0.050
II	24	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)*	12656-85-8	0.005
II	25	Lead chromate*	7758-97-6	0.005
II	26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	0.005
II	27	Pitch, coal tar, high temp.**	65996-93-2	0.050
II	28	Tris(2-chloroethyl)phosphate	115-96-8	0.050
III	29	Ammonium dichromate*	7789-09-5	0.005
III	30	Boric acid*	10043-35-3, 11113-50-1	0.005
III	31	Disodium tetraborate, anhydrous*	1303-96-4, 1330-43-4, 12179-04-3	0.005
III	32	Potassium chromate*	7789-00-6	0.005
III	33	Potassium dichromate*	7778-50-9	0.005
III	34	Sodium chromate*	7775-11-3	0.005
III	35	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	0.005
III	36	Trichloroethylene	79-01-6	0.050
IV	37	2-Ethoxyethanol	110-80-5	0.050
IV	38	2-Methoxyethanol	109-86-4	0.050
IV	39	Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid*	7738-94-5,- 13530-68-2	0.005

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
IV	40	Chromium trioxide*	1333-82-0	0.005
IV	41	Cobalt(II) carbonate*	513-79-1	0.005
IV	42	Cobalt(II) diacetate*	71-48-7	0.005
IV	43	Cobalt(II) dinitrate*	10141-05-6	0.005
IV	44	Cobalt(II) sulphate*	10124-43-3	0.005
V	45	1,2,3-trichloropropane	96-18-4	0.050
V	46	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	0.050
V	47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	0.050
V	48	1-methyl-2-pyrrolidone	872-50-4	0.050
V	49	2-ethoxyethyl acetate	111-15-9	0.050
V	50	Hydrazine	7803-57-8, 302-01-2	0.050
V	51	Strontium chromate*	7789-06-2	0.005
VI	52	1,2-Dichloroethane	107-06-2	0.050
VI	53	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	0.050
VI	54	2-Methoxyaniline; o-Anisidine	90-04-0	0.050
VI	55	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	0.050
VI	56	Aluminosilicate Refractory Ceramic Fibres *	650-017-00-8 (Index no.)	0.005
VI	57	Arsenic acid*	7778-39-4	0.005
VI	58	Bis(2-methoxyethyl) ether	111-96-6	0.050
VI	59	Bis(2-methoxyethyl) phthalate	117-82-8	0.050

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VI	60	Calcium arsenate*	7778-44-1	0.005
VI	61	Dichromium tris(chromate) *	24613-89-6	0.005
VI	62	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	0.050
VI	63	Lead diazide, Lead azide*	13424-46-9	0.005
VI	64	Lead dipicrate*	6477-64-1	0.005
VI	65	Lead styphnate*	15245-44-0	0.005
VI	66	N,N-dimethylacetamide	127-19-5	0.050
VI	67	Pentazinc chromate octahydroxide*	49663-84-5	0.005
VI	68	Phenolphthalein	77-09-8	0.050
VI	69	Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9	0.005
VI	70	Trilead diarsenate*	3687-31-8	0.005
VI	71	Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	0.005
VII	72	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)§	2580-56-5	0.050
VII	73	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)§	548-62-9	0.050
VII	74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	0.050
VII	75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	0.050
VII	76	4,4'-bis(dimethylamino) benzophenone (Michler's Ketone)	90-94-8	0.050
VII	77	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol§	561-41-1	0.050
VII	78	Diboron trioxide*	1303-86-2	0.005

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VII	79	Formamide	75-12-7	0.050
VII	80	Lead(II) bis(methanesulfonate)*	17570-76-2	0.005
VII	81	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	0.050
VII	82	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	0.050
VII	83	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) §	6786-83-0	0.050
VII	84	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6	0.050
VIII	85	[Phthalato(2-)]dioxotrilead*	69011-06-9	0.005
VIII	86	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.050
VIII	87	1,2-Diethoxyethane	629-14-1	0.050
VIII	88	1-Bromopropane	106-94-5	0.050
VIII	89	3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.050
VIII	90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	0.050
VIII	91	4,4'-Methylenedi-o-toluidine	838-88-0	0.050
VIII	92	4,4'-Oxydianiline and its salts	101-80-4	0.050
VIII	93	4-Aminoazobenzene	60-09-3	0.050
VIII	94	4-Methyl-m-phenylenediamine	95-80-7	0.050
VIII	95	4-Nonylphenol, branched and linear	-	0.050
VIII	96	6-Methoxy-m-toluidine	120-71-8	0.050
VIII	97	Acetic acid, lead salt, basic*	51404-69-4	0.005

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	98	Biphenyl-4-ylamine	92-67-1	0.050
VIII	99	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	0.050
VIII	100	Cyclohexane-1,2-dicarboxylic anhydride, cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7,13149-00-3,14166-21-3	0.050
VIII	101	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	0.050
VIII	102	Dibutyltin dichloride (DBTC)	683-18-1	0.050
VIII	103	Diethyl sulphate	64-67-5	0.050
VIII	104	Diisopentylphthalate	605-50-5	0.050
VIII	105	Dimethyl sulphate	77-78-1	0.050
VIII	106	Dinoseb	88-85-7	0.050
VIII	107	Dioxobis(stearato)trilead*	12578-12-0	0.005
VIII	108	Fatty acids, C16-18, lead salts*	91031-62-8	0.005
VIII	109	Furan	110-00-9	0.050
VIII	110	Henicosafluoroundecanoic acid	2058-94-8	0.050
VIII	111	Heptacosafluorotetradecanoic acid	376-06-7	0.050
VIII	112	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic anhydride	☆	0.050
VIII	113	Lead bis(tetrafluoroborate)*	13814-96-5	0.005
VIII	114	Lead cyanamidate*	20837-86-9	0.005
VIII	115	Lead dinitrate*	10099-74-8	0.005
VIII	116	Lead monoxide*	1317-36-8	0.005

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	117	Lead oxide sulfate*	12036-76-9	0.005
VIII	118	Lead tetroxide (orange lead)*	1314-41-6	0.005
VIII	119	Lead titanium trioxide*	12060-00-3	0.005
VIII	120	Lead titanium zirconium oxide*	12626-81-2	0.005
VIII	121	Methoxyacetic acid	625-45-6	0.050
VIII	122	Methyloxirane (Propylene oxide)	75-56-9	0.050
VIII	123	N,N-dimethylformamide	68-12-2	0.050
VIII	124	N-Methylacetamide	79-16-3	0.050
VIII	125	N-Pentyl-isopentylphthalate	776297-69-9	0.050
VIII	126	o-Aminoazotoluene	97-56-3	0.050
VIII	127	o-Toluidine	95-53-4	0.050
VIII	128	Pentacosafluorotridecanoic acid	72629-94-8	0.050
VIII	129	Pentalead tetraoxide sulphate*	12065-90-6	0.005
VIII	130	Pyrochlore, antimony lead yellow*	8012-00-8	0.005
VIII	131	Silicic acid, barium salt, lead-doped*	68784-75-8	0.005
VIII	132	Silicic acid, lead salt*	11120-22-2	0.005
VIII	133	Sulfurous acid, lead salt, dibasic*	62229-08-7	0.005
VIII	134	Tetraethyllead*	78-00-2	0.005
VIII	135	Tetralead trioxide sulphate*	12202-17-4	0.005
VIII	136	Tricosafluorododecanoic acid	307-55-1	0.050
VIII	137	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	0.005

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	138	Trilead dioxide phosphonate*	12141-20-7	0.005
IX	139	4-Nonylphenol, branched and linear, ethoxylated	-	0.050
IX	140	Ammonium pentadecafluorooctanoate (APFO)**	3825-26-1	0.050
IX	141	Cadmium oxide*	1306-19-0	0.005
IX	142	Cadmium*	7440-43-9	0.005
IX	143	Dipentyl phthalate (DPP)	131-18-0	0.050
IX	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.050
X	145	Cadmium sulphide*	1306-23-6	0.005
X	146	Dihexyl phthalate	84-75-3	0.050
X	147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	0.050
X	148	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	0.050
X	149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	0.050
X	150	Lead di(acetate)*	301-04-2	0.005
X	151	Trixylyl phosphate	25155-23-1	0.050
XI	152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	0.050
XI	153	Cadmium chloride*	10108-64-2	0.005
XI	154	Sodium perborate; perboric acid, sodium salt*	-	0.005
XI	155	Sodium peroxometaborate*	7632-04-4	0.005

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
XII	156	2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.050
XII	157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.050
XII	158	2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate; DOTE	15571-58-1	0.050
XII	159	Cadmium fluoride*	7790-79-6	0.005
XII	160	Cadmium sulphate*	10124-36-4, 31119-53-6	0.005
XII	161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate & 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE & MOTE)	-	0.050
XIII	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5, 68648-93-1	0.050
XIII	163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	-	0.050
XIV	164	1,3-propanesultone	1120-71-4	0.050
XIV	165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	0.050
XIV	166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	0.050
XIV	167	Nitrobenzene	98-95-3	0.050
XIV	168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1,21049-39-8, 4149-60-4	0.050
XV	169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	0.050

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
XVI	170	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	0.050
XVI	171	4-Heptylphenol, branched and linear	-	0.050
XVI	172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3108-42-7,335-76-2,3830-45-3	0.050
XVI	173	p-(1,1-dimethylpropyl)phenol	80-46-6	0.050
XVII	174	Perfluorohexane-1-sulphonic acid and its salts	-	0.050
XVIII	175	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	0.050
XVIII	176	Benz[a]anthracene	56-55-3, 1718-53-2	0.050
XVIII	177	Cadmium nitrate*	10022-68-1, 10325-94-7	0.005
XVIII	178	Cadmium carbonate*	513-78-0	0.005
XVIII	179	Cadmium hydroxide*	21041-95-2	0.005
XVIII	180	Chrysene	218-01-9, 1719-03-5	0.050
XVIII	181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]	-	0.050
XIX	182	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride)	552-30-7	0.050
XIX	183	Benzo[ghi]perylene	191-24-2	0.050
XIX	184	Decamethylcyclopentasiloxane (D5)	541-02-6	0.050
XIX	185	Dicyclohexyl phthalate (DCHP)	84-61-7	0.050
XIX	186	Disodium octaborate*	12008-41-2	0.005

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(SVHC)

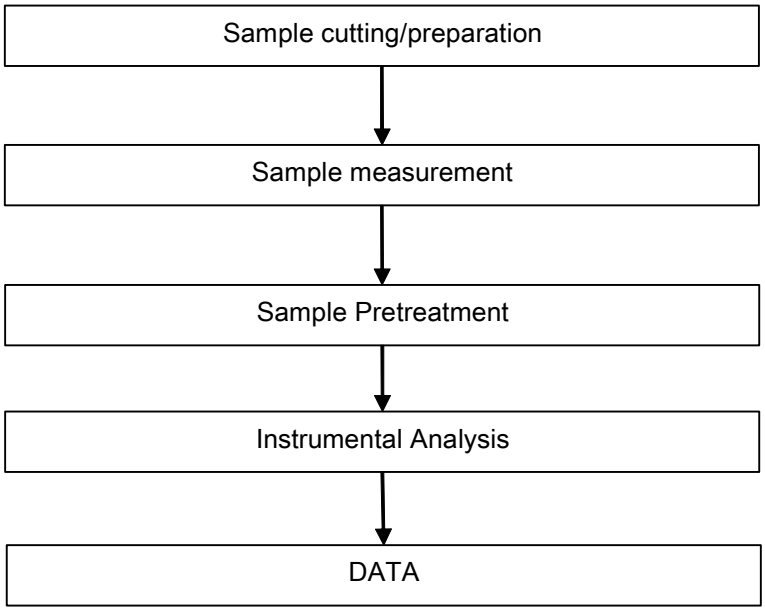
Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
XIX	187	Dodecamethylcyclohexasiloxane (D6)	540-97-6	0.050
XIX	188	Ethylenediamine	107-15-3	0.050
XIX	189	Lead*	7439-92-1	0.005
XIX	190	Octamethylcyclotetrasiloxane (D4)	556-67-2	0.050
XIX	191	Terphenyl hydrogenated	61788-32-7	0.050
XX	192	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor)	15087-24-8	0.050
XX	193	2,2-bis(4'-hydroxyphenyl)-4- methylpentane	6807-17-6	0.050
XX	194	Benzo[k]fluoranthene	207-08-9	0.050
XX	195	Fluoranthene	206-44-0, 93951-69-0	0.050
XX	196	Phenanthrene	85-01-8	0.050
XX	197	Pyrene	129-00-0, 1718-52-1	0.050
Add.	198	4-tert-butylphenol (PTBP)	98-54-4	0.050

ATTACHMENTS

SVHC Testing Flow Chart



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Sample photo:

CANEC1904032403

CAN19-040324.003

SGS authenticate the photo on original report only

*** End of Report ***

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Test Report

DONGGUAN LUCKY FLY CONDUCTOR CO.,LTD

QIAO ZI REGION CHANG PING TOWN DONG GUAN CITY GUANG DONG PROVINCE
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : TINNED COPPER WIRE

SGS Job No. :	CP19-011773 - GZ
Date of Sample Received :	15 Mar 2019
Testing Period :	15 Mar 2019 - 21 Mar 2019
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

Violet Shi

Violet,Shi
Approved Signatory

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

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-040324.002	Silvery plated metal wire

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 , 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	5
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▾	-	μg/cm²	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

Test Item(s)	Limit	Unit	MDL	*002*
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.IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(2) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². 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/cm²). The coating is considered a non-CrVI based coating

c. The result between 0.10 μg/cm² and 0.13 μg/cm² 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.

Elementary Analysis

Test Method : SGS In-house method (GZTC CHEM-TOP-009-01, with reference to US EPA Method 3050B:1996), analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	*002*
Beryllium (Be)	mg/kg	5	ND

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method : With reference to AfPS GS 2014:01 PAK, analysis was performed by GC-MS.

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Test Item(s)	CAS NO.	Unit	MDL	002
Naphthalene(NAP)	91-20-3	mg/kg	0.1	ND
Acenaphthylene(ANY)	208-96-8	mg/kg	0.1	ND
Acenaphthene(ANA)	83-32-9	mg/kg	0.1	ND
Fluorene(FLU)	86-73-7	mg/kg	0.1	ND
Phenanthrene(PHE)	85-01-8	mg/kg	0.1	ND
Anthracene(ANT)	120-12-7	mg/kg	0.1	ND
Fluoranthene(FLT)	206-44-0	mg/kg	0.1	ND
Pyrene(PYR)	129-00-0	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	56-55-3	mg/kg	0.1	ND
Chrysene(CHR)	218-01-9	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF)	205-99-2	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	205-82-3	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	207-08-9	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	50-32-8	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	192-97-2	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	193-39-5	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	53-70-3	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	191-24-2	mg/kg	0.1	ND
Sum of 7 PAHs Acenaphthylene. Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-	mg/kg	-	ND
Sum of 18 PAHs	-	mg/kg	-	ND

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

Parameter	Category 1	Category 2		Category 3	
	Material indented to be put in the mouth or toys with intended skin contact (longer than 30 s).	Materials not falling under category 1 with foreseeable contact to skin for longer than 30 s (long-term skin) or frequent contact.		Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 s (short-term skin contact).	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(e)pyrene Mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(a)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(b)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(j)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(k)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo(a,h)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(g,h,i)perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno(l,2,3-cd)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Acenaphthylene, Acenaphthene, fluorene,phenanthrene , pyrene, anthracene, fluoranthene, mg/kg	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Naphthalene, mg/kg	< 1	< 2		< 10	
Sum of 18 PAHs	<1	< 5	< 10	< 20	< 50

PFOS (Perfluorooctane sulfonates)

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

Test Item(s)	CAS NO.	Unit	MDL	002
Perfluorooctane Sulfonates (PFOS)^	-	mg/kg	10	ND

Notes :

(1) ^ PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide,

N-Methylperfluorooctane sulfonamidoethanol and N-Ethylperfluorooctane sulfonamidoethanol.

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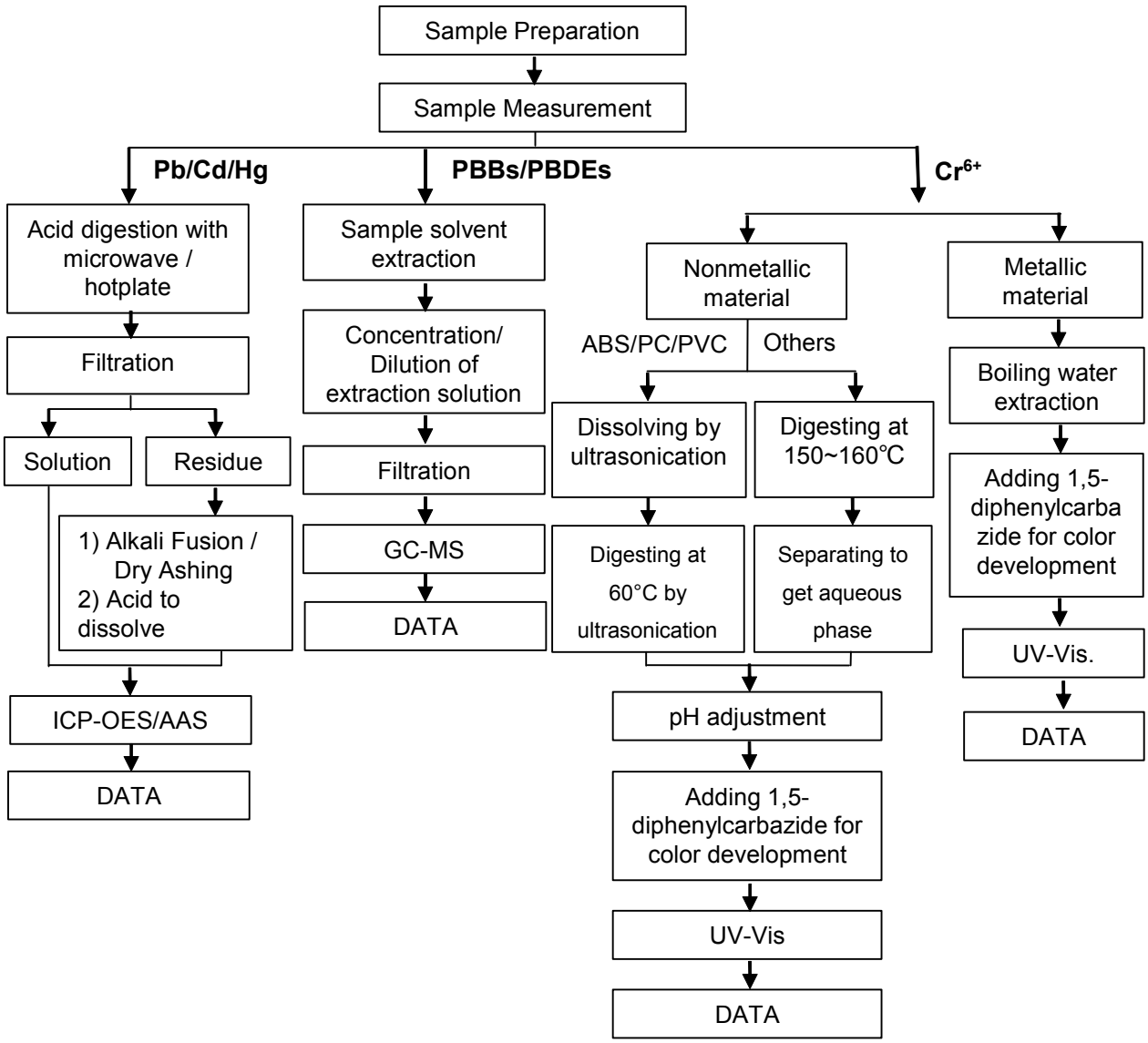
ATTACHMENTS

Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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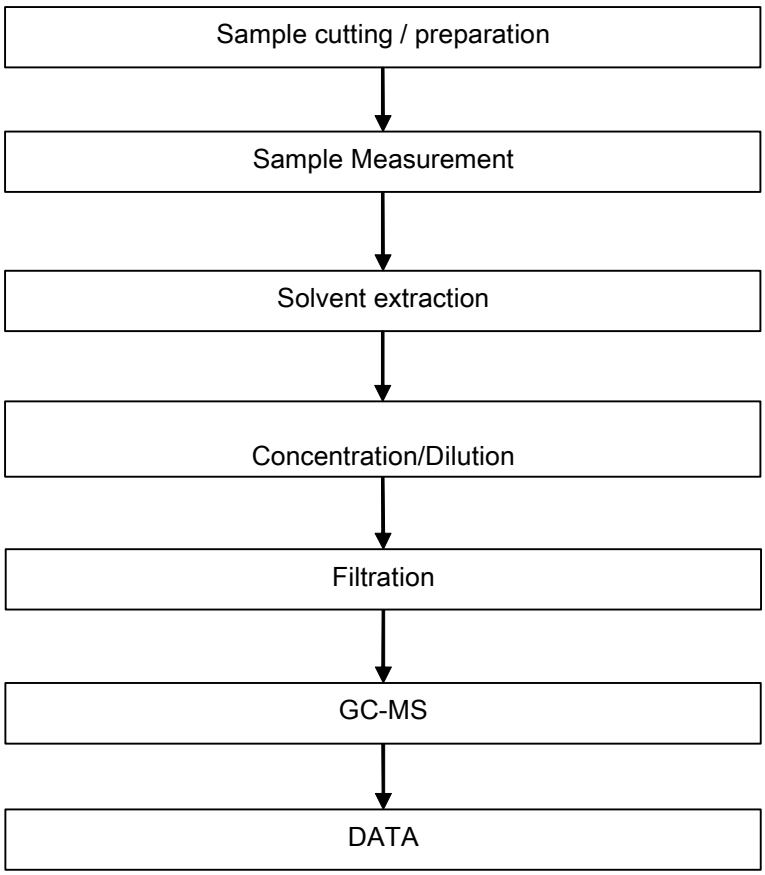
ATTACHMENTS

Phthalates Testing Flow Chart



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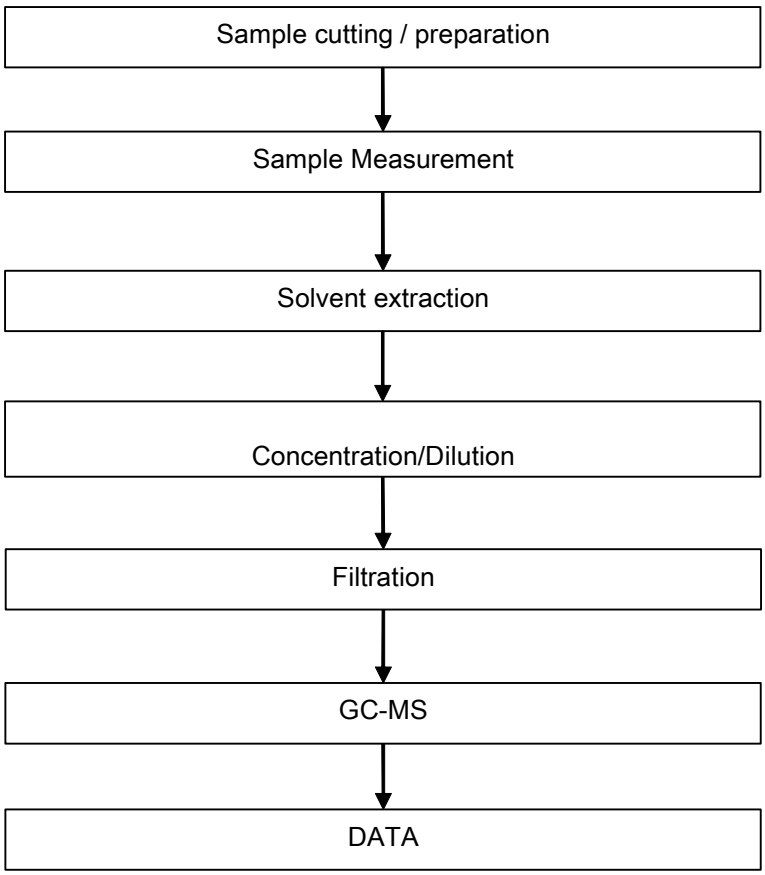
ATTACHMENTS

PAHs Testing Flow Chart



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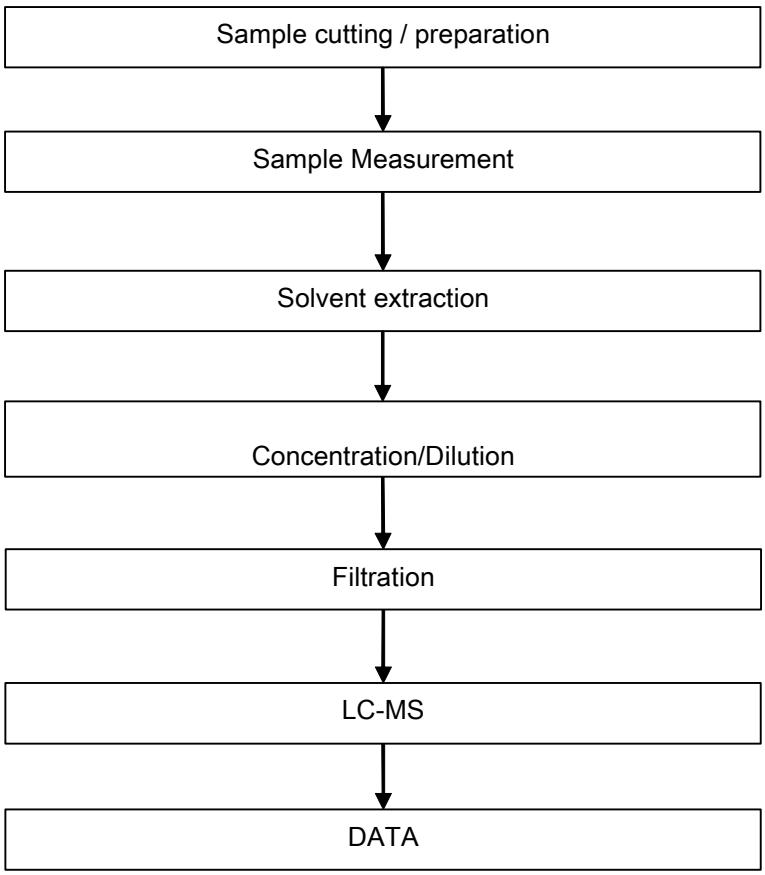
ATTACHMENTS

PFOA / PFOS Testing Flow Chart



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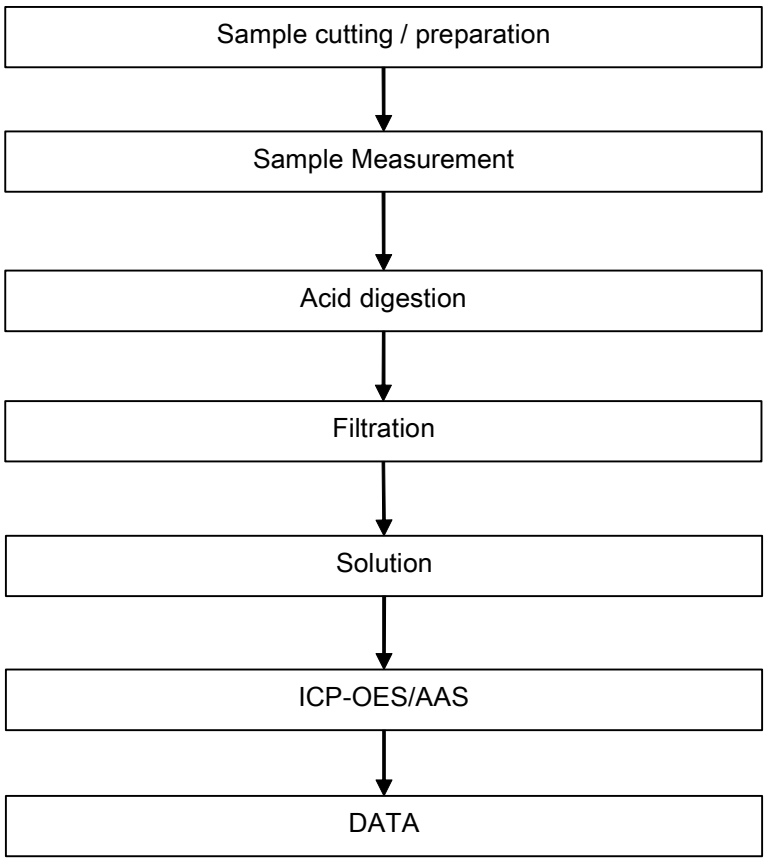
ATTACHMENTS

Elementary Testing Flow Chart



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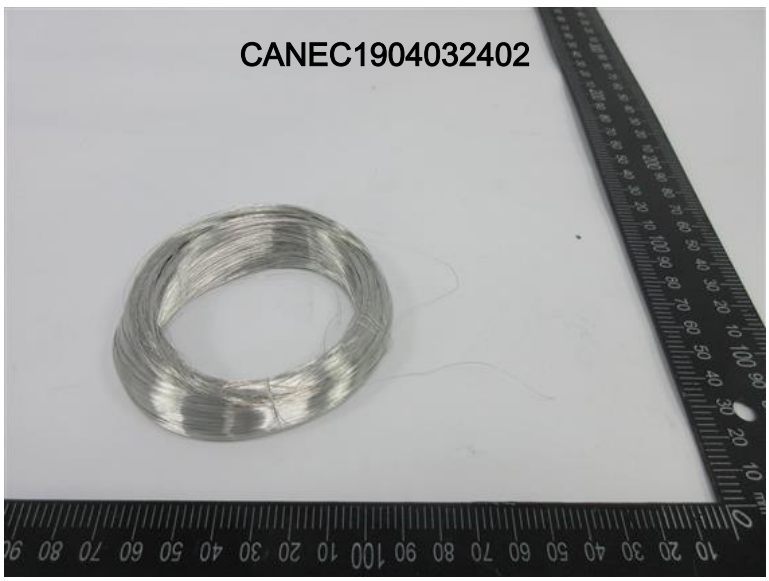
Sample photo:



CAN19-040324.002

SGS authenticate the photo on original report only

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SINWA LASER TECHNOLOGY CO.,LTD

50.WU KONG 5 TH RD,.WU KU INDUSTRIAL PARK .TAIPEI TAIWAN

This report is to supersede test report CANEC1910676513

The following sample(s) was/were submitted and identified on behalf of the clients as : INK BLACK FOR WIRE&CABLE PRINTING

SGS Job No. :	CP19-029729 - SZ
Client Ref. Info. :	I-PVC-02
Date of Sample Received :	05 Jun 2019
Testing Period :	05 Jun 2019 - 12 Jun 2019
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

Merry Lv
Approved Signatory

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

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-106765.003	Black liquid

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 62321-7-2:2017 , 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	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	8	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 Item(s)	Limit	Unit	MDL	003
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)	1,000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1,000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1,000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1,000	mg/kg	50	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25

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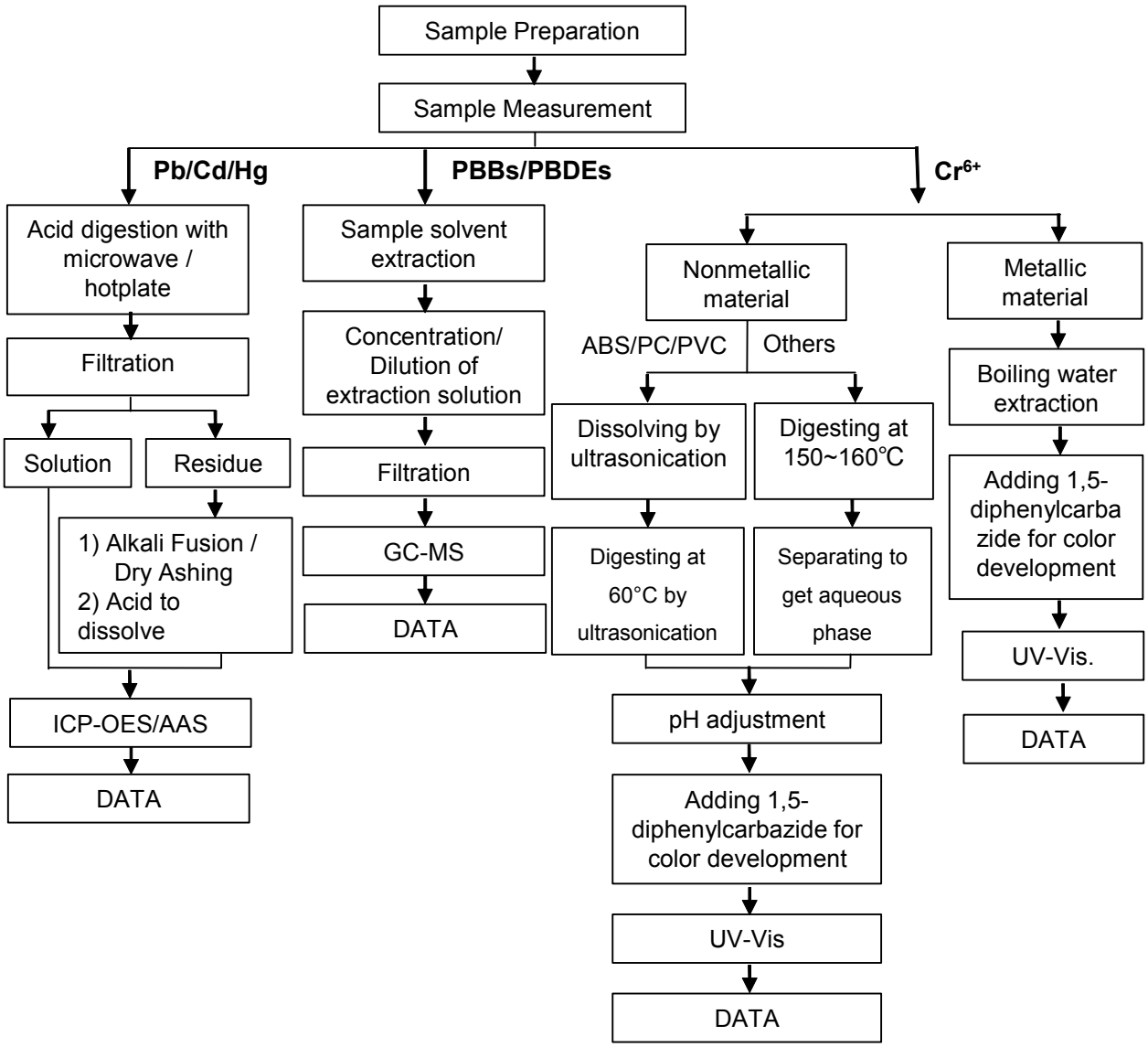
ATTACHMENTS

Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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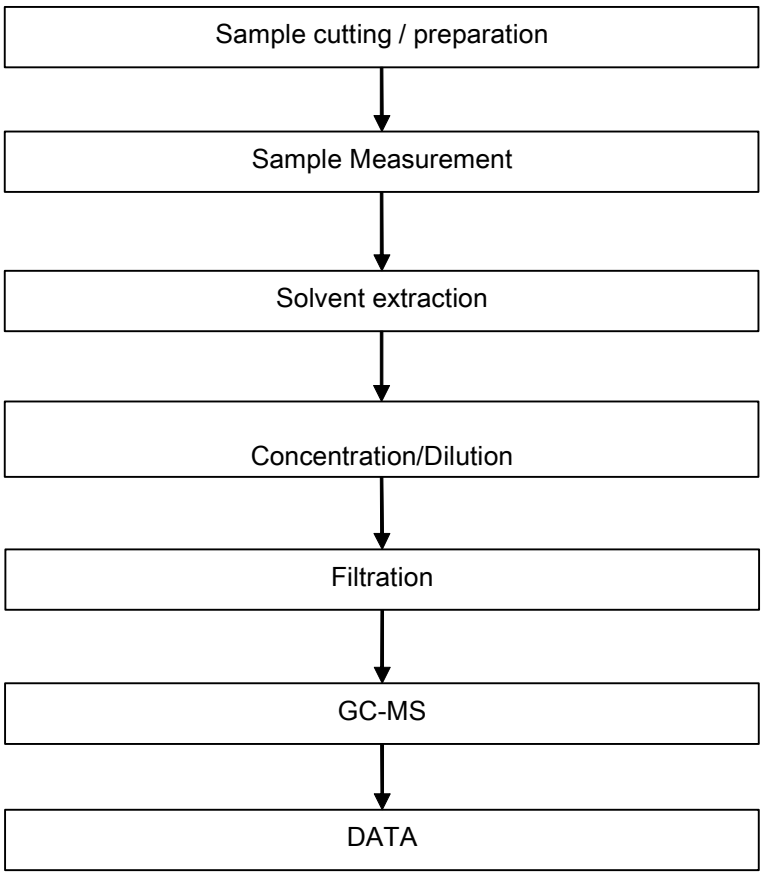
ATTACHMENTS

Phthalates Testing Flow Chart



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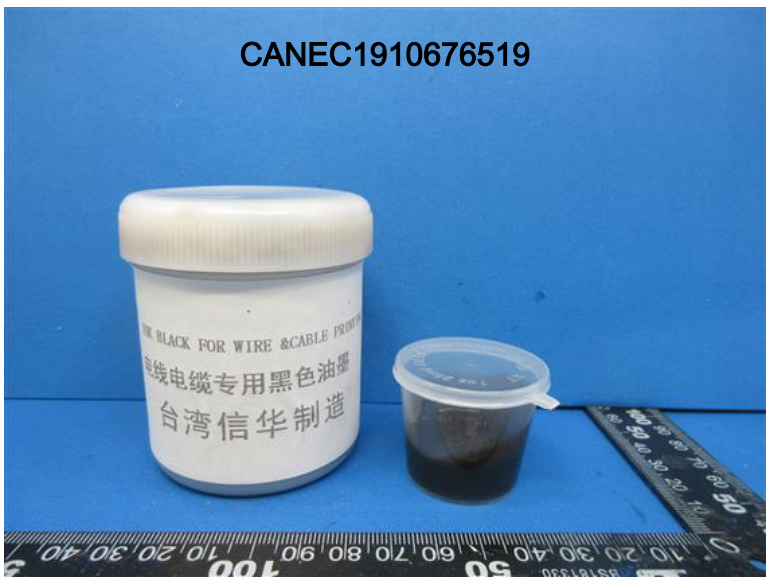
Sample photo:



CAN19-106765.003

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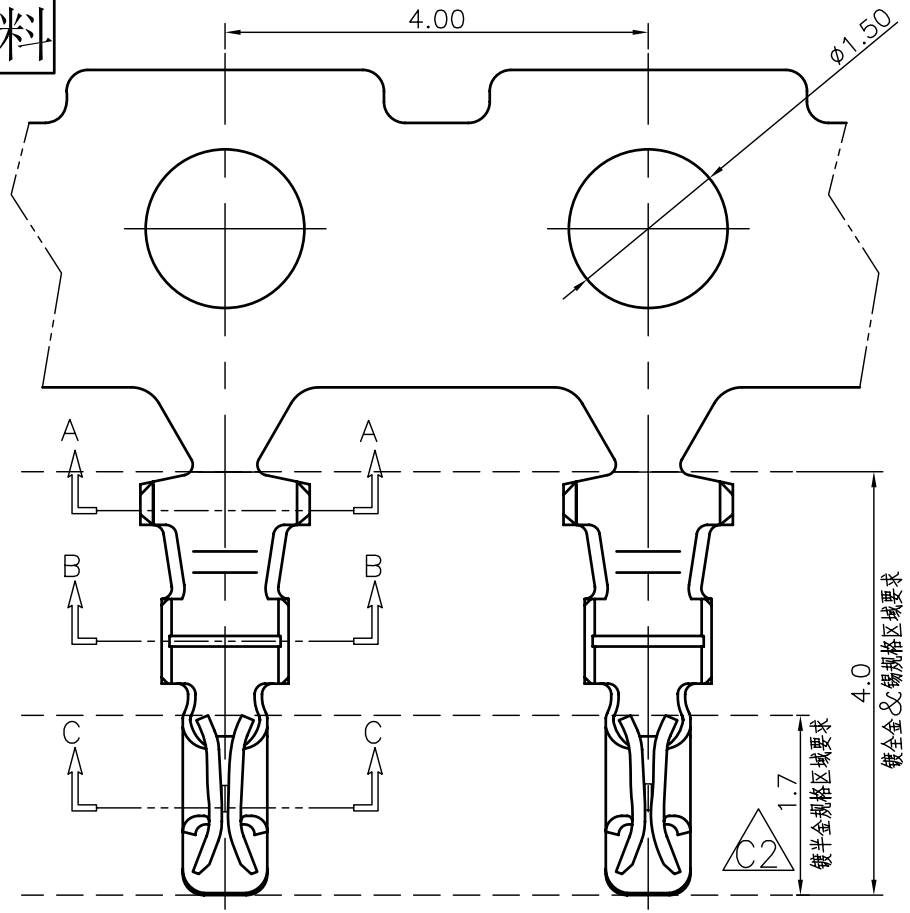
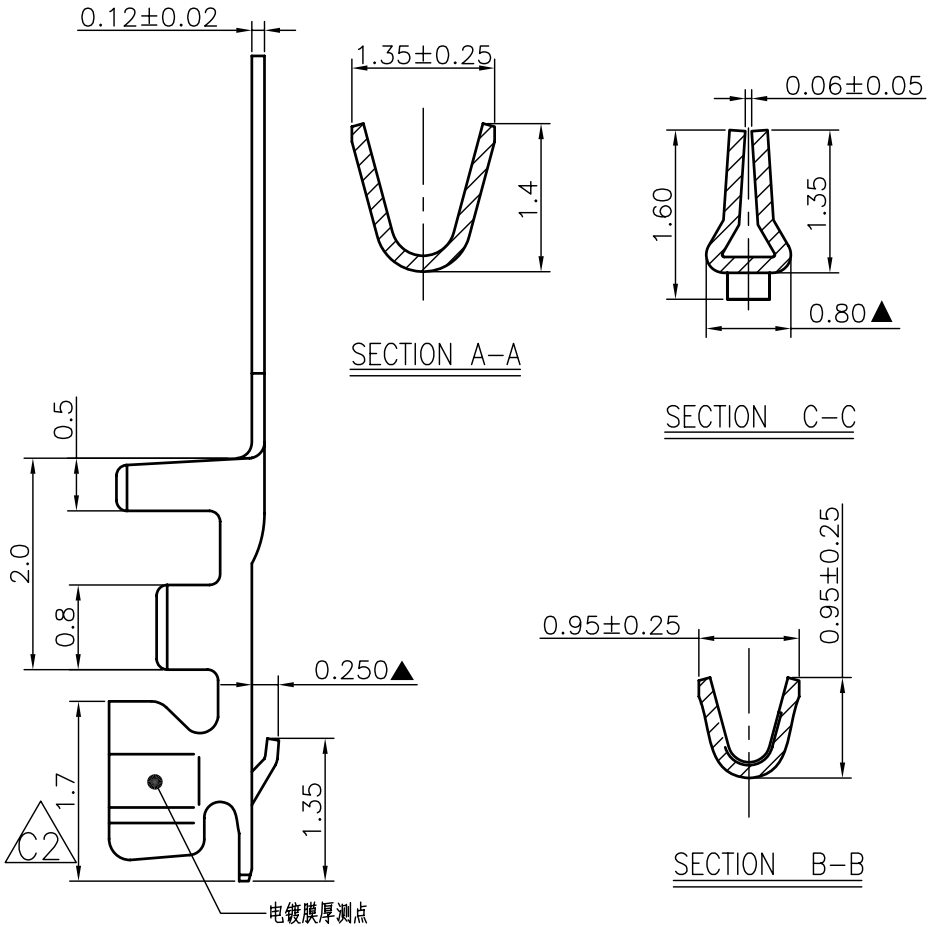
环保物料





Specification & Ordering Information:

Options	Part No	Wire Range	Insulation O.D.	Material	Finish	Qty/reel
1	11002TOP–2E–S–NK	AWG #28~#32	0.80mm(max)	Phosphor Bronze	Tin–plated 80μ"Min	2,0000 PCS
2	11002TOP–5X–S–NK	AWG #28~#32	0.80mm(max)	Phosphor Bronze	Gold Plated on Overall.	2,0000 PCS
3	11002TOP–0X–S–NK	AWG #28~#32	0.80mm(max)	Phosphor Bronze	Gold Plated on Contact Area.	2,0000 PCS

Note:11002TOP–XX–S–NK C1

0A––Gold–flash 0B––2μ" 0C––3μ" 0D––4μ" 0E––5μ" 5A––Gold–flash 5B––2μ" 5C––3μ" 5D––4μ" 5E––5μ"
0F––10μ" 0G––15μ" 0H––30μ" 0I––50μ" 5F––10μ" 5G––15μ" 5H––30μ" 5I––50μ"

版次REV.	日 期 DATE	变 更 内 容 DESCRIPTION	审 核 CHK.	核 准 APPD.
C3	11.05.31	TR1105310082	EAST	唐海江
C2	10.08.05	TR1007270049	EAST	唐海江
C1	09.12.21	修改电镀码料号,增加Mark码	EAST	唐海江
C0	09.12.09	换图框发行	EAST	唐海江

一般公差 GENERAL TOLERANCE
X.X ±0.25 X° ±5°
X.XX ±0.15 X.X' ±2'
X.XXX ±0.08 ▲ MAJOR DIM.
单位UNIT mm

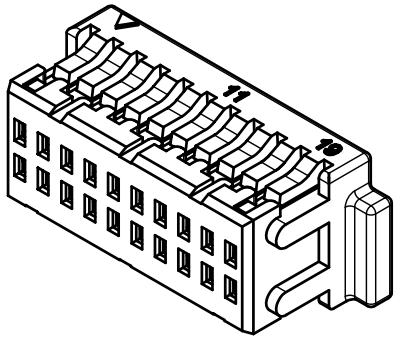
绘 图 DR.	EAST
校 对 CHK.	唐海江
审 核 CHK.	龚友连
核 准 APPD.	王志刚

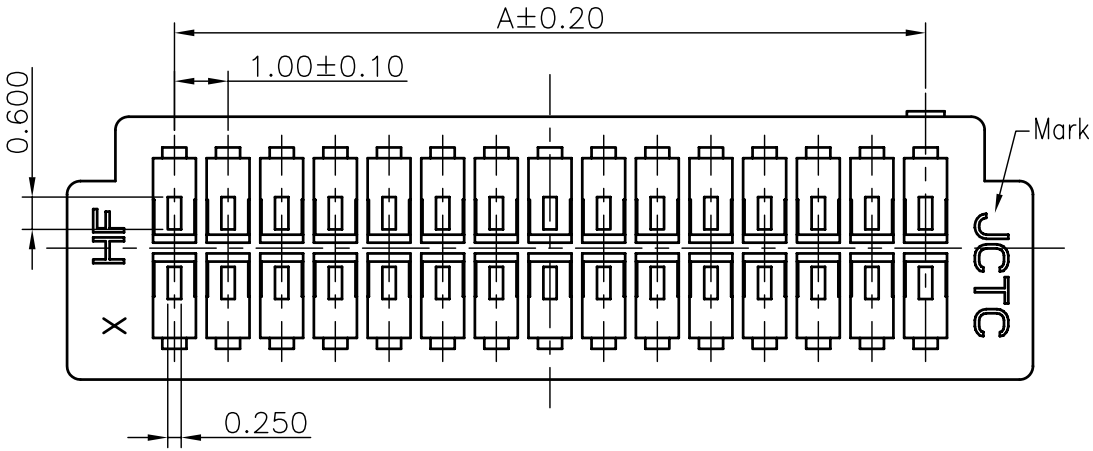
JCTC® 东莞市胜蓝电子有限公司
TERMINAL & CONNECTORS —— 富 强 电 子 厂 ——

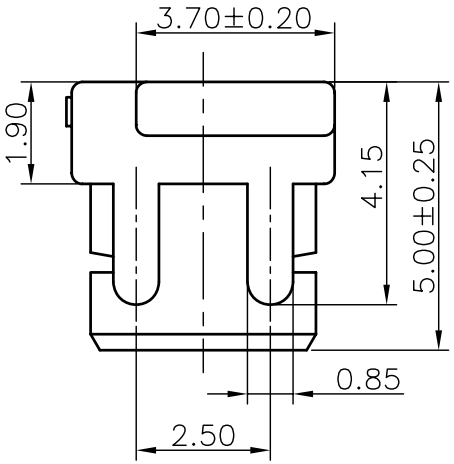
品名TITLE: JST1.0端子 松端

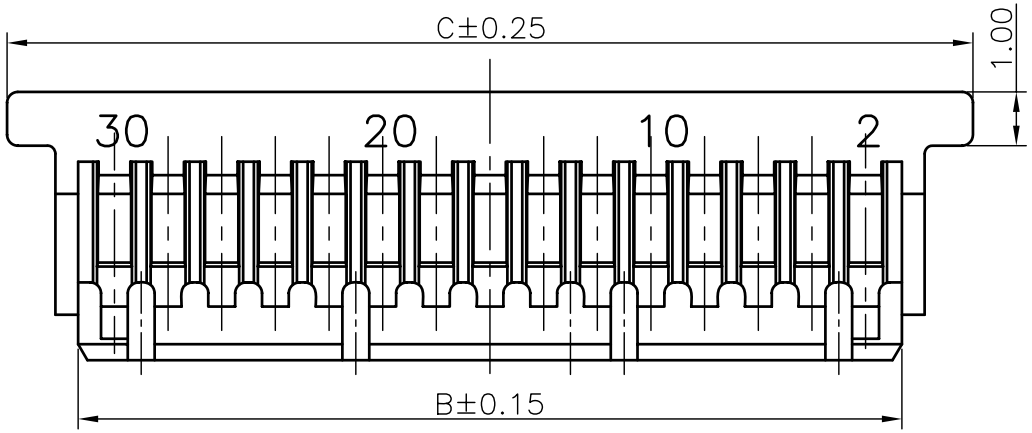
料号 PART NO.		
11002TOP–XX–S–NK		
文件编号 NUMBER		
ENDE05		
比例SCALE	SHEET	版次 REV.
1/1	1/1	C3

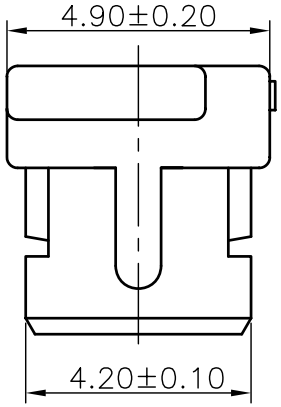
环保物料











Dimensional Ordering Information:			
Circuits / Part No	Dimensions A	B	C
2x5P	4.00	5.35	8.00
2x6P	5.00	6.35	9.00
2x8P	7.00	8.35	11.00
2x9P	8.00	9.35	12.00
2x10P	9.00	10.35	13.00
2x12P	11.00	12.35	15.00
2x15P	14.00	15.35	18.00
2x17P	16.00	17.35	20.00
2x18P	17.00	18.35	21.00
2x20P	19.00	20.35	23.00
2x25P	24.00	25.35	28.00

Specifications:
Rated Voltage : 50V AC/DC
Rated Current : 1A AC,DC
Withstand Voltage : 500V AC/minute
Contact Resistance : 20mΩ(MAX.)
Insulation Resistance : 100MΩ(MIN.)
Temperature Range :−25°C~+85°C

11002H00−2XNPX−HF−NK
① ② ③ ④ ⑤ ⑥

① Series No.
② H90 : Side Contact
H00 : Up Contact
③ No. of Circuits
④ A: Product color (A−−Y)
Blank : Natural type
⑤ HF : Halogen Free
⑥ Blank: Mark NK: No Mark

Suitable for JCTC 11002 series terminal

Part No.	Material	Color
11002H00−2XNP	PBT,UL94V−0	Natural(White)
11002H00−2XNP−NK	PBT,UL94V−0	Natural(White)
11002H00−2XNP−HF	Nylon 66,UL94V−0	Natural(White)
11002H00−2XNP−HF−NK	Nylon 66,UL94V−0	Natural(White)
11002H00−2XNPA−HF	Nylon 66,UL94V−0	Natural(Black)
11002H00−2XNPM−HF	Nylon 66,UL94V−0	Natural(Beige)

版次REV.	日 期 DATE	变 更 内 容 DESCRIPTION	审 核 CHK.	核 准 APPD.
C2	12.05.08	新增规格	龚友连	王志刚
C1	11.05.18	新增黑色无卤料号	龚友连	王志刚
C0	09.11.20	换图框发行	龚友连	王志刚

一般公差 GENERAL TOLERANCE
X.X ±0.25
X.XX ±0.15
X.XXX ±0.08
X° ±5°
X.X° ±2°
▲ MAJOR DIM.
单位 UNIT mm

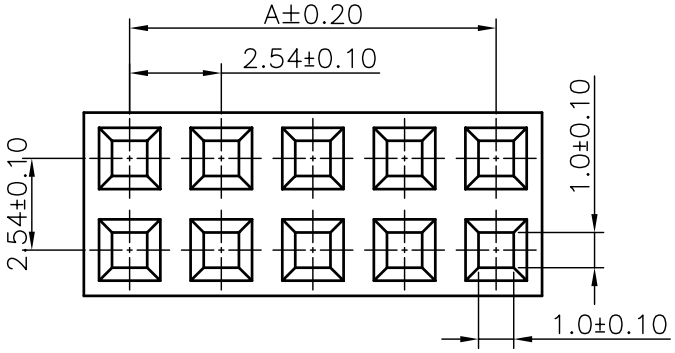
绘 图 DR.	陈 千
校 对 CHK.	欧阳小强
审 核 CHK.	龚友连
核 准 APPD.	王志刚

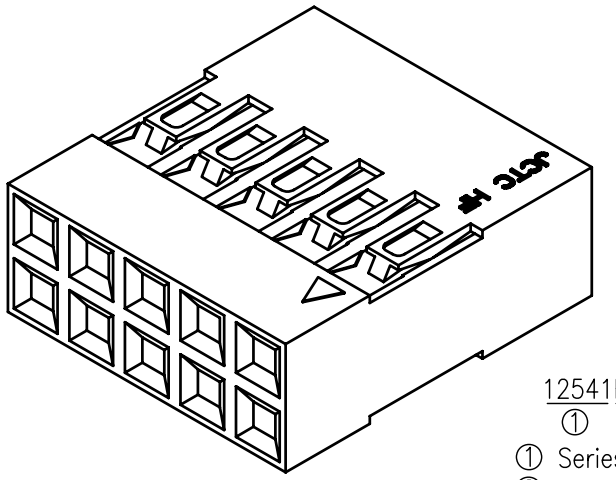
JCTC® 东莞市胜蓝电子有限公司
TERMINAL & CONNECTORS —— 富 强 电 子 厂 ——

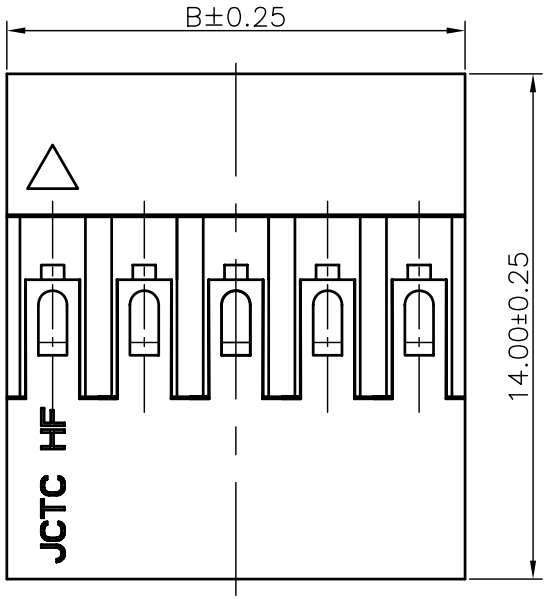
品名 TITLE
JST 1.00mm PITCH 双排 HOUSING

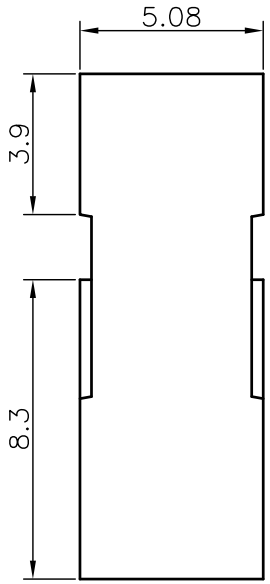
料号 PART NO. 11002H00-2XNPX-XX-XX
文件编号 NUMBER ENDE05
比例 SCALE 1/1
SHEET 1/2
版次 REV. C2

环保物料









12541H00-2xNPA-HF
① ② ③④ ⑤

① Series No.
② H90 : Side Contact
H00 : Up Contact
③ No. of Circuits
④ A : Product color(A--Y)
Blank : Natural type
⑤ HF : Halogen Free

Specifications:
Rated Voltage : 250V AC/DC
Rated Current : 3A AC,DC
Withstand Voltage : 800V AC/minute
Contact Resistance : 20mΩ(MAX.)
Insulation Resistance : 1000MΩ(MIN.)
Temperature Range : -25°C~+85°C
Pitch Between Poles : 2.54mm

Dimensional Ordering Information:		
Circuits	Dimensions	
Part No	A	B
2X2P	---	5.08
2X3P	5.08	7.62
2X4P	7.62	10.16
2X5P	10.16	12.70
2X6P	12.70	15.24
2X7P	15.24	17.78
2X8P	17.78	20.32
2X9P	20.32	22.86
2X10P	22.86	25.40
2X11P	25.40	27.94
2X12P	27.94	30.48
2X13P	30.48	33.02
2X14P	33.02	35.56
2X15P	35.56	38.10
2X16P	38.10	40.64
2X17P	40.64	43.18
2X18P	43.18	45.72
2X19P	45.72	48.26
2X20P	48.26	50.80

Suitable for JCTC 12541 series terminal

Part No.	Material	Color	备注
12541H00-2xNPA-HF	Nylon 66,UL 94V-0	黑色无卤	SL10-0004

版次REV.	日 期 DATE	变 更 内 容 DESCRIPTION	审 核 CHK.	核 准 APPD.
C0	10.08.17	换图框发行	龚友连	王志刚

一般公差GENERAL TOLERANCE
X.X ±0.25 X° ±5°
X.XX ±0.15 X.X' ±2'
X.XXX ±0.08 ▲ MAJOR DIM.
单位 UNIT mm

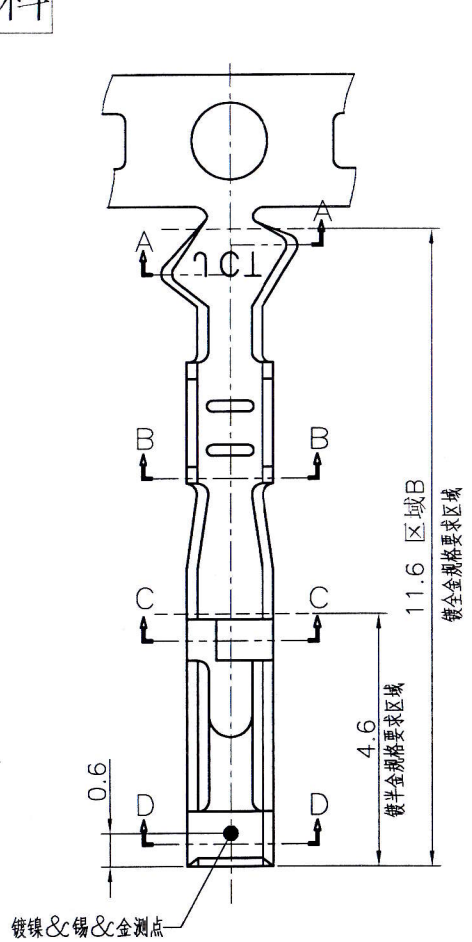
绘 图 DR.	欧阳小强
校 对 CHK.	龚友连
审 核 CHK.	龚友连
核 准 APPD.	王志刚

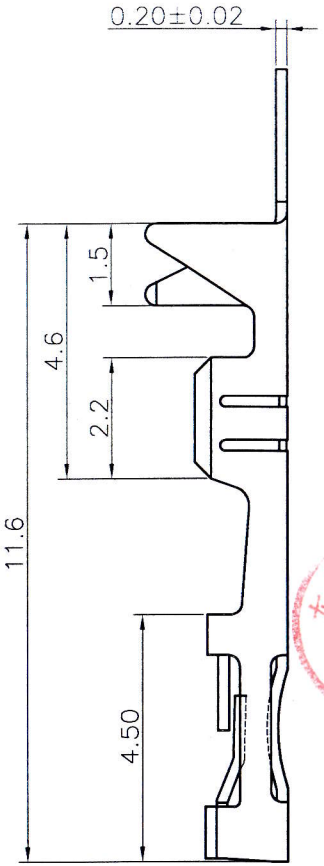
JCTC 东莞市胜蓝电子有限公司 —— 富强电子厂 ——

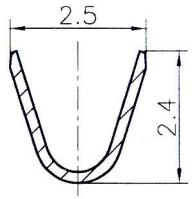
品名TITLE
DB 双排 2.54mm PITCH HOUSING

料号 PART NO. 12541H00-2xNPA-HF
文件编号 NUMBER ENDE05
比例SCALE 1/1 | SHEET 1/1 | 版次 REV. C0

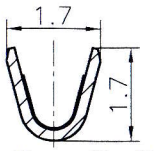
环保物料







Section A–A



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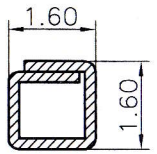

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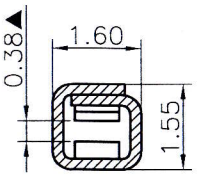

Section D–D

PART NO
12541T2X–XX–4&5&6–S

B––Brass
P––Phosphor Bronze
Finish

Die No.

C1 0A––Gold-flash 0B––2u" 0C––3u"
0D––4u" 0E––5u" 0F––10u"
0G––15u" 0H––30u" 0I––50u"

C1

Part No	Wire Range	Insulation O.D.	Material	Finish	Qty/reel
12541T2B–2E–X–S	AWG #22~#28	1.60mm(max)	Brass	Tin–plated	10,000 pcs
12541T2B–XX–X–S	AWG #22~#28	1.60mm(max)	Brass	Gold–plated	10,000 pcs
12541T2P–XX–S	AWG #22~#28	1.60mm(max)	Phosphor Bronze	Gold–plated	10,000 pcs

版次 REV.	日期 DATE	变更内容 DESCRIPTION	审核 CHK.	核准 APPD.
C3	14.01.13	增加磷铜规格	龚友连	唐海江
C2	13.10.10	TN1310090165	龚友连	唐海江
C1	10.08.25	TN1008250066	EAST	唐海江
C0	10.01.23	换图框发行	EAST	唐海江

一般公差 GENERAL TOLERANCE
X.X ±0.25 X° ±5°
X.XX ±0.15 X.X° ±2°
X.XXX ±0.08 ▲ MAJOR DIM.
单位 UNIT mm

绘图 DR. 陈志成
校对 CHK.
审核 CHK.
核准 APPD.

JCTC® TERMINAL & CONNECTORS
■ 东莞胜蓝 □ 东莞胜景 □ 苏州伟聚 □ 东莞富强

品名 TITLE
杜邦2.54高脚端子

料号 PART NO. 12541T2X–XX–X–S
文件编号 NUMBER ENDE05
比例 SCALE 1/1
SHEET 1/1
版次 REV. C3

ONLINE CERTIFICATIONS DIRECTORY

ECBT2.E338796
Connectors for Use in Data, Signal, Control and Power Applications - Component

Page Bottom

Connectors for Use in Data, Signal, Control and Power Applications - Component

See General Information for Connectors for Use in Data, Signal, Control and Power Applications - Component

DONGGUAN CITY SHENGLAN ELECTRONICS CO LTD E338796
Hexin Rd
Shatou District
Changan
Dongguan, Guangdong 523846 CHINA

Connectors, Model(s) Cat. No. 11002H00, follow by -2X, follow by 5, 6, 8, 9, 10, 12, 15, 17, 18, 20, 25, follow by P, follow by A thru Z or 1 thru 9, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9, follow by -A thru -Z, follow by A thru Z.

Cat. No. 11002W00, follow by -2X, follow by 5, 6, 8, 9, 10, 12, 15, 20, 25, follow by P, follow by A thru Z or 1 thru 9, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9, follow by -A thru -Z, follow by A thru Z.

Cat. No. 11002W90, follow by -2X, follow by 5, 6, 8, 9, 10, 15, 20, 25, follow by P, follow by A thru Z or 1 thru 9, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9, follow by -A thru -Z, follow by A thru Z.

Cat. No. 11004H, followed by -2x10 or -2x15, followed by PL.

Cat. No. 11006H00, followed by -2X10, -2X15 or -2X20, followed by P.

Cat. No. 11252H, followed by -2x, followed by 5, 10, 15 or 20, followed by P.

Cat. No. 11252W, followed by -2X, followed by 5, 10, 15 or 20, followed by P.

Cat. No. 11253H, followed by -20 or -30, followed by P.

Cat. No. 11253W, followed by -20 or -30, followed by P.

Cat. No. 11258H00, follow by -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -20, follow by P, follow by A thru Z or 1 thru 9, follow by -L, follow by -A thru -Z or -1 thru -9, follow A thru Z or 1 thru 9.

Cat. No. 11258W90, follow by -S, follow by -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -20, follow by P, follow by A thru Z or 1 thru 9, follow by -L, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9.

Cat. No. 11500H00, followed by -2 thru -15, followed by P.

Cat. No. 11500W00, followed by -2 thru -15, followed by P.

Cat. No. 12002H00, follow by -2 thru -16, follow by P, follow by A thru Z or 1 thru 9, follow by -L, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9.

Cat. No. 12002W00, follow by -2 thru -16, follow by P, follow by A thru Z or 1 thru 9, follow by -L, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9.

Cat. No. 12002W90, follow by -2 thru -16, follow by P, follow by A thru Z or 1 thru 9, follow by -L, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9.

Cat. No. 12003H, followed by -2x, followed by 2 thru 17, followed by P.

Cat. No. 12009H00, followed by -2X2, -2X3 or -2X4, followed by P.

Cat. No. 12504H00, followed by -2 thru -15, followed by P, followed by -L.

Cat. No. 12505H00, followed by -2 thru -15 or -20, followed by P.

Cat. No. 12505W00, follow by -2 thru -15, follow by P, follow by A thru Z or 1 thru 9, follow by -A thru -Z or -1 thru -9, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9, follow by -A thru -Z, follow by A thru Z.

Cat. No. 12505W90, follow by -2 thru -15, follow by P, follow by A thru Z or 1 thru 9, follow by -A thru -Z or -1 thru -9, follow by -A thru -Z or -1 thru -9, follow by A thru Z or 1 thru 9, follow by -A thru -Z, follow by A thru Z.

Cat. No. 12541H, followed by -2x, followed by 1 thru 20, followed by P.

Cat. No. 12543H, followed by -2 thru -20, followed by P.

Cat. No. 12547H00, followed by -3 thru -8, followed by P.

Cat. No. 13502W90, followed by -2P, followed by A thru Z, followed by -A thru -Z, or -0 thru -9, followed by -A thru -Z, or -0 thru -9, followed by -A thru -Z, or -0 thru -9, followed by -A thru -Z, or -0 thru -9.

Cat. No. 13962H00, 13962W00 and 13962W90, followed by -2P thru -10P, followed by A thru Z, followed by -A thru -Z, or -0 thru -9, followed by -A thru -Z, or -0 thru -9.

Cat. No. 22001H, followed by -2 thru -16, followed by P.

Cat. No. 22501H, followed by -2 thru -14, followed by P.

Cat. Nos. 10500H and 10500W, followed by -41 or -51, followed by P.

Cat. Nos. 11001H and 11001W, followed by -30, followed by P.

Cat. Nos. 11002H and 11002W, followed by -2 thru -20, followed by P.

Cat. Nos. 11003H and 11003W, followed by -2 thru -30, followed by P.

Cat. Nos. 11005H and 11005W, followed by -2X, followed by 2 thru 25, followed by P.

Cat. Nos. 11251H and 11251W, followed by -2 thru -15, followed by P.

Cat. Nos. 11254H00, 12006H, 12006W, 12504H and 12504W, followed by -2 thru -15, followed by P.

Cat. Nos. 11255H, 11255W, 11256H and 11256W, followed by -2 thru -30, followed by P.

Cat. Nos. 11257H, follow by -4 thru -15, followed by PL.

Cat. Nos. 11257W, 12503H00 and 12503W00, follow by -2 thru -15, followed by P.

Cat. Nos. 11501H and 11501W, followed by -2 thru -13, followed by P.

Cat. Nos. 11501H00 and 11501W00, followed by -14 or -15, followed by P.

Cat. Nos. 12001H and 12001W, followed by -2 thru -16, followed by P.

Cat. Nos. 12002H and 12002W, followed by -2x, followed by 2 thru 15, followed by P.

Cat. Nos. 12004H, 12004W and 12005W, follow by -2 thru -16, followed by P.

Cat. Nos. 12005H, follow by -2 thru -16, followed by PL.

Cat. Nos. 12501H and 12501W, followed by -2 thru -16, followed by P.

Cat. Nos. 12502H and 12502W, followed by -2 thru -15, followed by P.

Cat. Nos. 50801H and 50801W, follow by -2 thru -24, followed by P.

Cat. Nos. 51274H-7P and 51275H-7P.

Marking: Company name and model designation on the device or carton.
Last Updated on 2014-04-25

Questions? Print this page Terms of Use Page Top

SHENGLAN TECHNOLOGY CO.,LTD.

NO.4HECING ROAD SHATOU SOUTHERN DISTRICT CHANGAN TOWN DONGGUAN CITY GUANGDONG PROVINCE 523863 CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Nylon 66 UL 94V-0 Natural color housing

SGS Job No. :	CP19-049304 - SZ
Tested Sample Info. :	Nylon 66 UL 94V-0 Natural color housing
Client Ref. Info. :	PLEASE SEE REMARK
Date of Sample Received :	05 Sep 2019
Testing Period :	05 Sep 2019 - 17 Sep 2019
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).

Result Summary :

Test Requested	Conclusion
RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU	PASS
Elementary Analysis	See Results
Tetrabromobisphenol A (TBBP-A)	See Results
Red Phosphor	See Results
Polycyclic Aromatic Hydrocarbons (PAHs)	See Results
Hexabromocyclododecane (HBCDD)	See Results
Phthalate	See Results
Phthalate(s)	See Results
European Regulation POPs (EU) 2019/1021– Alkanes C10-C13, chloro (short-chain chlorinated paraffins) (SCCPs)	PASS
PFOA & PFOS (Perfluorooctanoic acid & Perfluorooctane sulfonates)	See Results

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

Jessie Li

Jessie Li
Approved Signatory

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center Chemical Laboratory.
198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-175989.003	White material

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 62321-7-2:2017 , 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)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1000	mg/kg	8	ND
Sum of PBBs	1000	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	1000	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
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Item(s)	Limit	Unit	MDL	*003*
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.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

(2) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

(3) The restriction of DEHP, BBP, DBP and DIBP shall not apply to toys which are already subject to the restriction of DEHP, BBP, DBP and DIBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

Elementary Analysis

Test Method : SGS In-house method (GZTC CHEM-TOP-004-01, with reference to US EPA Method 3052:1996), analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	*003*
Antimony (Sb)	mg/kg	10	ND
Tin (Sn)	mg/kg	5	ND

Tetrabromobisphenol A (TBBP-A)

Test Method : SGS In-house method (GZTC CHEM-TOP-065, with reference to US EPA Method 3540C:1996), analysis was performed by GC-MS&HPLC-MS.

Test Item(s)	Unit	MDL	*003*
Tetrabromobisphenol A (TBBP-A)	mg/kg	10	ND

Red Phosphor

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn

中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Method : SGS In-house method (GZTC CHEM-TOP-215-01), analysis was performed by PY-GC/MS/ ICP-OES.

Test Item(s)	Unit	MDL	*003*
Red phosphorus	mg/kg	500	ND

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method : With reference to AfPS GS 2014:01 PAK, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
Naphthalene(NAP)	91-20-3	mg/kg	0.1	ND
Acenaphthylene(ANY)	208-96-8	mg/kg	0.1	ND
Acenaphthene(ANA)	83-32-9	mg/kg	0.1	ND
Fluorene(FLU)	86-73-7	mg/kg	0.1	ND
Phenanthrene(PHE)	85-01-8	mg/kg	0.1	ND
Anthracene(ANT)	120-12-7	mg/kg	0.1	ND
Fluoranthene(FLT)	206-44-0	mg/kg	0.1	ND
Pyrene(PYR)	129-00-0	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	56-55-3	mg/kg	0.1	ND
Chrysene(CHR)	218-01-9	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF)	205-99-2	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	205-82-3	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	207-08-9	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	50-32-8	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	192-97-2	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	193-39-5	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	53-70-3	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	191-24-2	mg/kg	0.1	ND
Sum of 7 PAHs Acenaphthylene. Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-	mg/kg	-	ND
Sum of 18 PAHs	-	mg/kg	-	ND

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

Parameter	Category 1	Category 2		Category 3	
	Material indented to be put in the mouth or toys with intended skin contact (longer than 30 s).	Materials not falling under category 1 with foreseeable contact to skin for longer than 30 s (long-term skin) or frequent contact.		Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 s (short-term skin contact).	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(e)pyrene Mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(a)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(b)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(j)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(k)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo(a,h)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(g,h,i)perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno(l,2,3-cd)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Acenaphthylene, Acenaphthene, fluorene,phenanthrene , pyrene, anthracene, fluoranthene, mg/kg	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Naphthalene, mg/kg	< 1	< 2		< 10	
Sum of 18 PAHs	<1	< 5	< 10	< 20	< 50

Hexabromocyclododecane (HBCDD)

Test Method : SGS in house method (GZTC CHEM-TOP-073, with reference to US EPA Method 3550C: 2007) , analysis was performed by GC-MS.

Test Item(s)	Unit	MDL	003
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD)	mg/kg	10	ND

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Phthalate

Test Method : With reference to EN14372: 2004. Analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
Dibutyl Phthalate (DBP)	84-74-2	%(w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%(w/w)	0.003	ND
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%(w/w)	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.010	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%(w/w)	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.010	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%(w/w)	0.003	ND
Di(2-ethyhexyl)adipate (DEHA)	103-23-1	%(w/w)	0.003	ND
Diisobutyl Phthalate (DIBP)	84-69-5	%(w/w)	0.003	ND
Diethyl Phthalate (DEP)	84-66-2	%(w/w)	0.003	ND
Dimethyl Phthalate (DMP)	131-11-3	%(w/w)	0.003	ND
Diisooctyl Phthalate (DIOP)	27554-26-3	%(w/w)	0.010	ND
Dipropyl Phthalate (DPrP)	131-16-8	%(w/w)	0.003	ND
Dicyclohexyl Phthalate (DCHP)	84-61-7	%(w/w)	0.003	ND
Di-n-pentyl Phthalate (DnPP)	131-18-0	%(w/w)	0.003	ND
Dibenzyl Phthalate (DBzP)	523-31-9	%(w/w)	0.003	ND
Diphenyl Phthalate (DPhP)	84-62-8	%(w/w)	0.003	ND
Diisopentyl Phthalate (DIPP)	605-50-5	%(w/w)	0.003	ND
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	%(w/w)	0.01	ND
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	%(w/w)	0.01	ND
Di-n-heptyl Phthalate (DnHpP)	3648-21-3	%(w/w)	0.003	ND
Dinonyl Phthalate (DNP)	84-76-4	%(w/w)	0.003	ND
Bis(2-methoxyethyl) Phthalate (DMEP)	117-82-8	%(w/w)	0.003	ND

Notes :

(1) DBP,BBP,DEHP, DIBP Reference information: Entry 51 of Regulation (EU) No2018/2005 amending Annex XVII of REACH Regulation (EC) No 1907/2006:

i) Shall not be used as substances or in mixtures, individually or in any combination of DBP, BBP, DEHP & DIBP, in concentrations equal to or greater than 0.1 % by weight of the plasticised material, in toys and childcare articles.

ii) Shall not be placed on the market in toys or childcare articles, individually or in any combination of DBP, BBP, DEHP, in concentrations equal to or greater than 0.1 % by weight of the plasticised material.

In addition, DIBP shall not be placed on the market after 7 July 2020 in toys or childcare articles, individually or in any combination of DBP, BBP, DEHP & DIBP, in concentrations equal to or greater than 0.1 % by weight of the plasticised material.
iii) shall not be placed on the market after 7 July 2020 in articles, individually or in any combination of DBP, BBP, DEHP & DIBP, in concentrations equal to or greater than 0.1 % by weight of the plasticised material in the articles.
Please refer to Regulation (EU) No 2018/2005 to get more detail information.
(2) DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information.

Phthalate(s)

Test Method : With reference to SGS in house method (SGS-CCL-TOP-042-41) , analysis was performed by LC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
Phthalic acid, mono-2-ethylhexyl ester(MEHP)	4376-20-9	%(w/w)	0.003	ND

European Regulation POPs (EU) 2019/1021– Alkanes C10-C13, chloro (short-chain chlorinated paraffins) (SCCPs)

Test Method : With reference to ISO 18219: 2015, analysis was performed by GC-NCI-MS / GC-ECD.

Test Item(s)	Limit	Unit	MDL	003
Alkanes C10-C13, chloro (short-chain chlorinated paraffins) (SCCPs)	1500	mg/kg	50	ND
Comment				**PASS**
Alkanes C14-C17, chloro (medium -chain chlorinated paraffins) (MCCPs)	-	mg/kg	50	ND

PFOA & PFOS (Perfluorooctanoic acid & Perfluorooctane sulfonates)

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

Test Item(s)	CAS NO.	Unit	MDL	003
Perfluorooctanoic acid (PFOA)	335-67-1	mg/kg	0.01	ND
Perfluorooctane Sulfonates (PFOS)^		mg/kg	0.01	ND

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Notes :

(1) ^: PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

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REMARK

10001、10500、10800、11001、11002、11003、11004、11005、11006、11007、11008、
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81290、81290、LVA11、QB140、UCCA8、B0007、B0020、B0027、B0028、B0033、B0105、
TNDA3、JTHA8、SAF85、UAHA2、TNA11、TNDA3、RJCA9、RJHA6、DSB11、MCB11、UAB11、
WFB11、WTB11、RJB11、HDB11、HDB12、HDB13、UCB11、UBB1B、UBB11、UAB16、UADB8、
JAB11、YB、TP、MCMBE1、UMB1B、RJMAE2、BUA0CB、BUA0CB、UCMAJ1、BS0130、
RJMBE1、BS0133、BS0134、TNKBB1、TNTAC1、UATAA1、UAMAE1、USB2.0、UAMAE1、
UATAA1、TNTAE1、UCMAJ1、TNTBT3、9001、 9002、5000102、BT035210、THREE IN ONE、
FOUR IN ONE、USB、HDMI、 RJ、 0308、 XSBO、XSB1、UA10103、UA09092、MHF、FPC、
FFC、SATA、CARD、LVM、BS-8、JACK、J-PIM、RCA、BUAOHV、SUASN2 、BOO、JTHA8、
BUAO、OEM、TNAOPO、SCA、TUAOPH、SUAS02、AWDANW、AWDCIW、AWDATB、
AHFANB、TNTBC1、TNB12、TNKBG1/2/3/4、UBB14、US90、HE103A、BCO、WUSF5526、
UBDU2、UBMBS1/2、BB0、BPO、HD9A、PIN、TUA0PX、6500、BS0261、B0032、BP0156、
BP0237、BT035210、HP HS、N85、QB140、UC、Charging gun、BB0158、B0026、SA96、
SA95、U1B、AT89、 TN、UBB

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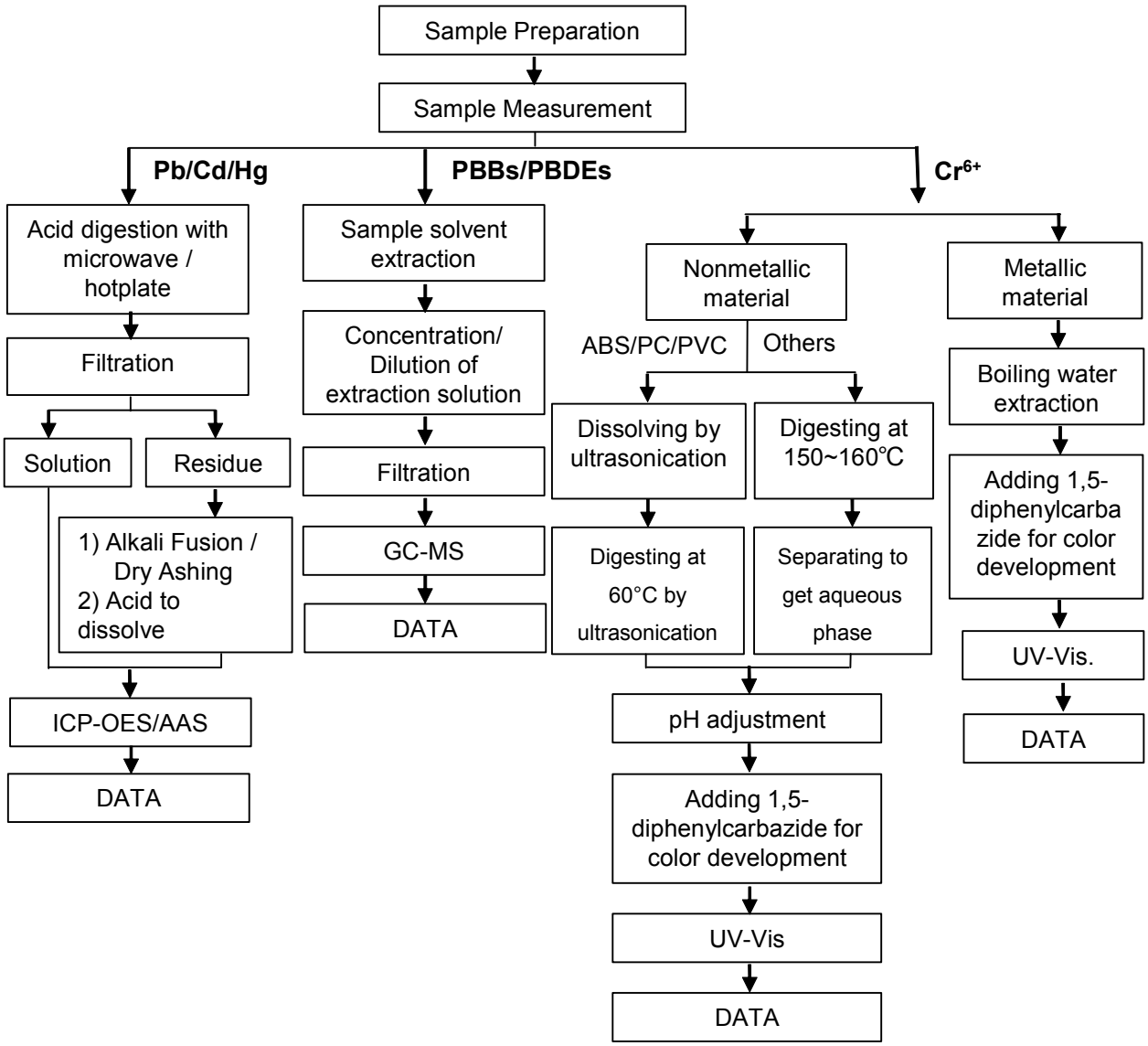
Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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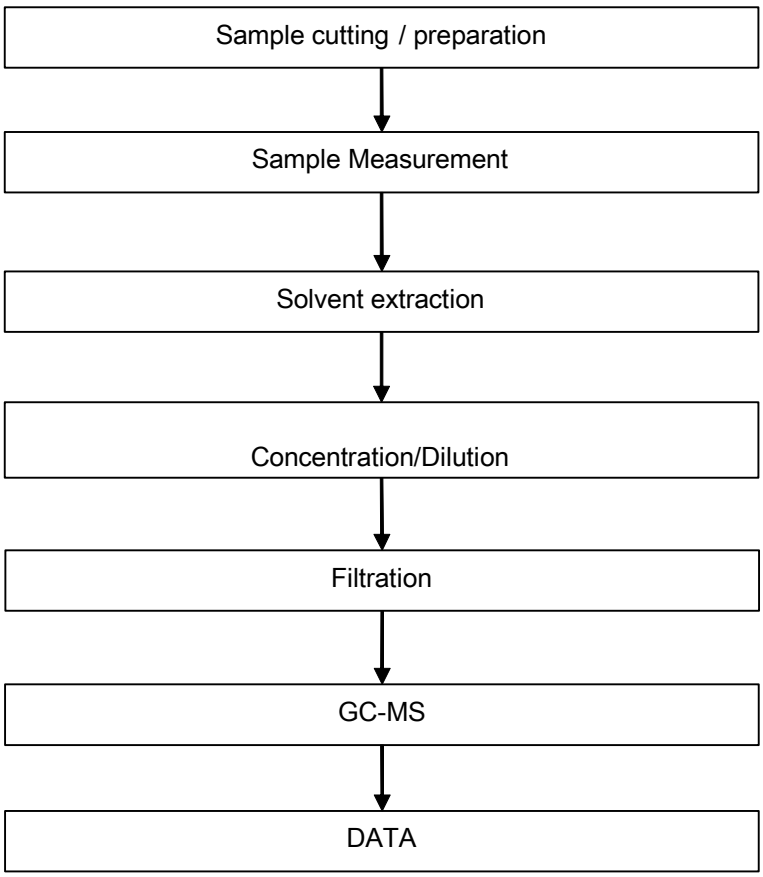
Phthalates Testing Flow Chart



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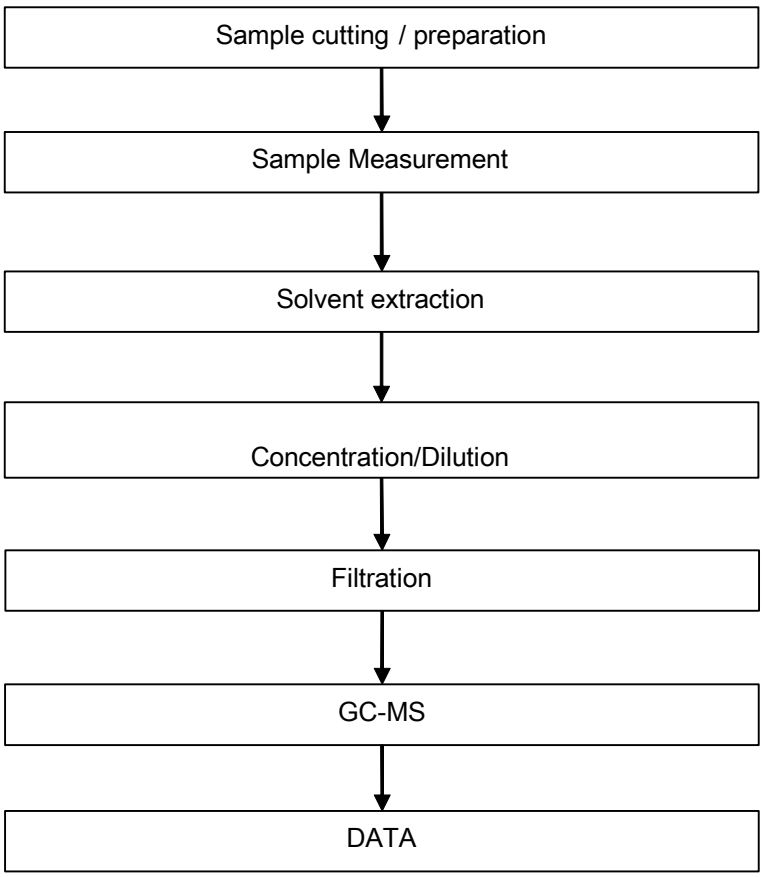
HBCDD Testing Flow Chart



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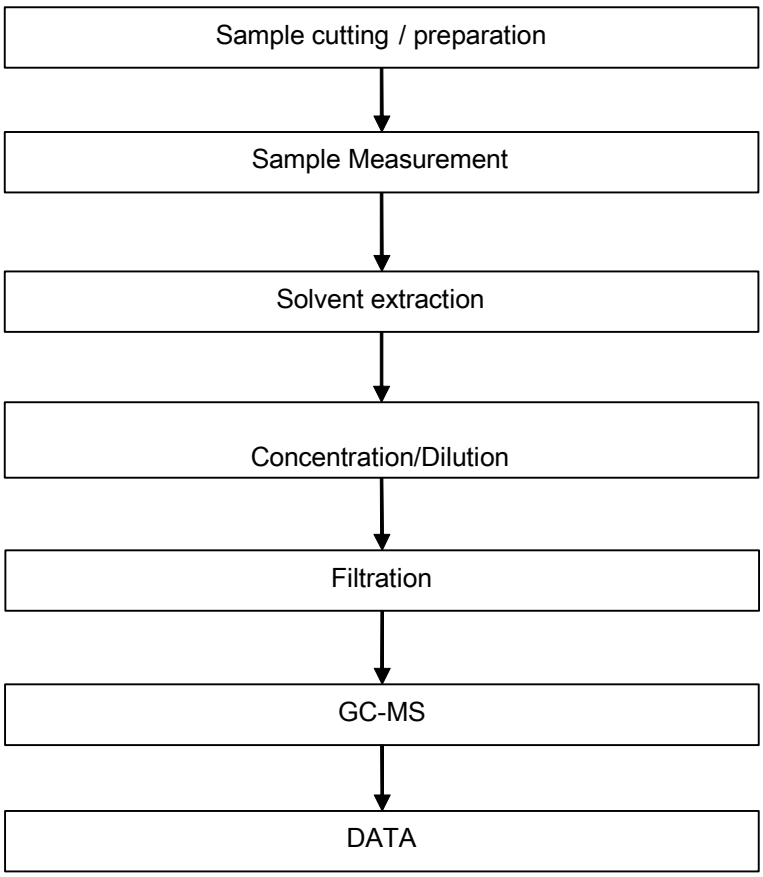
PAHs Testing Flow Chart



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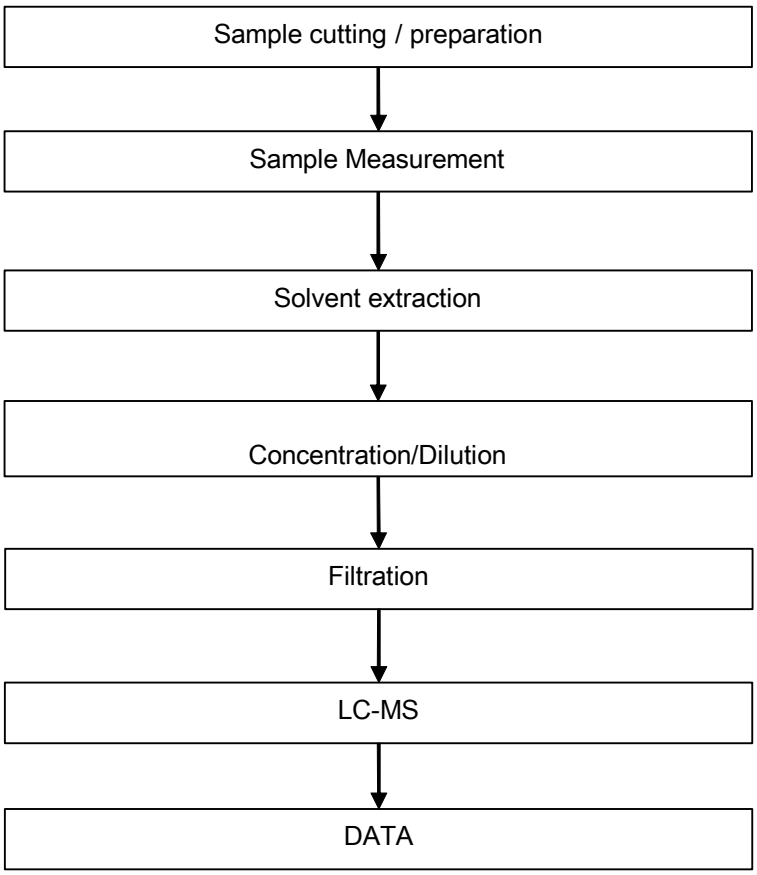
PFOA / PFOS Testing Flow Chart



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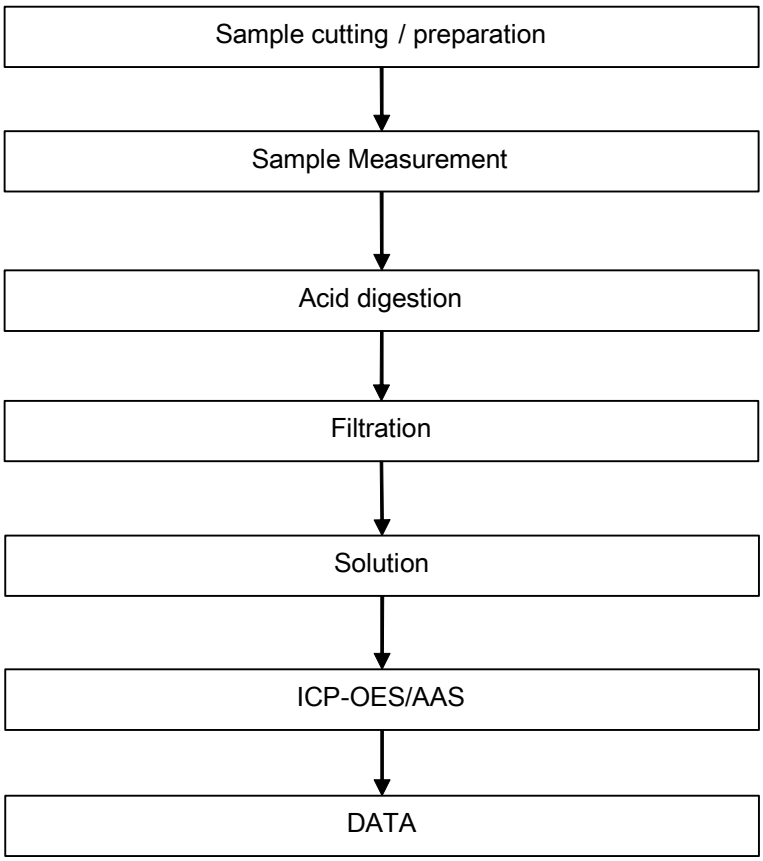
Elementary Testing Flow Chart



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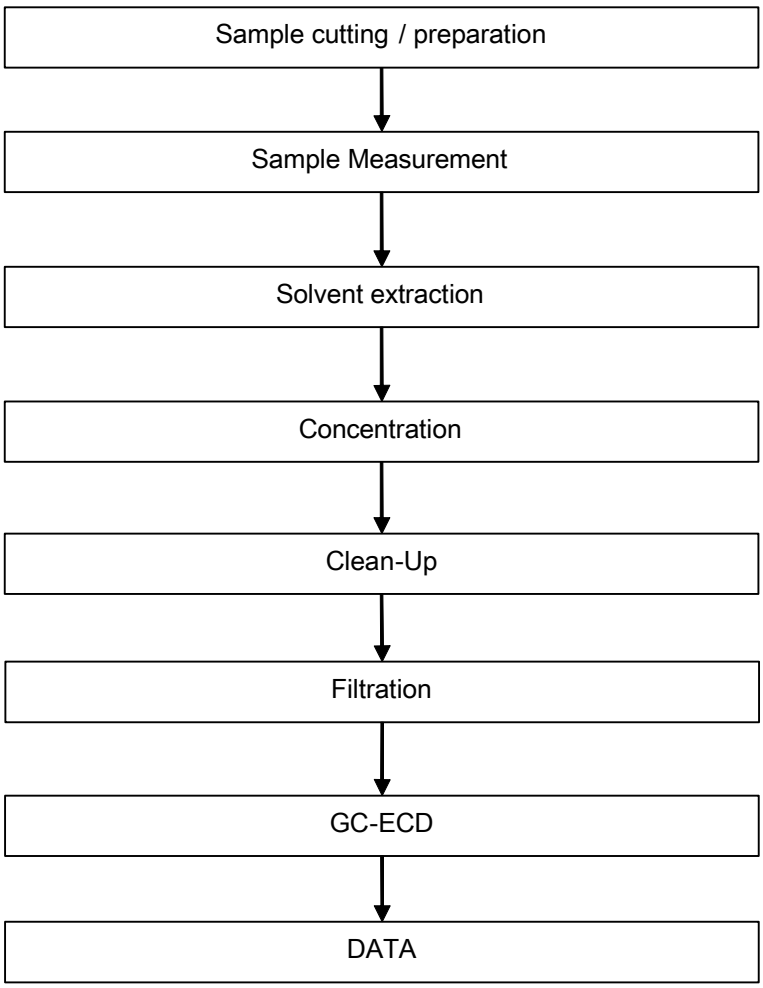
SCCP/MCCP/LCCP Testing Flow Chart



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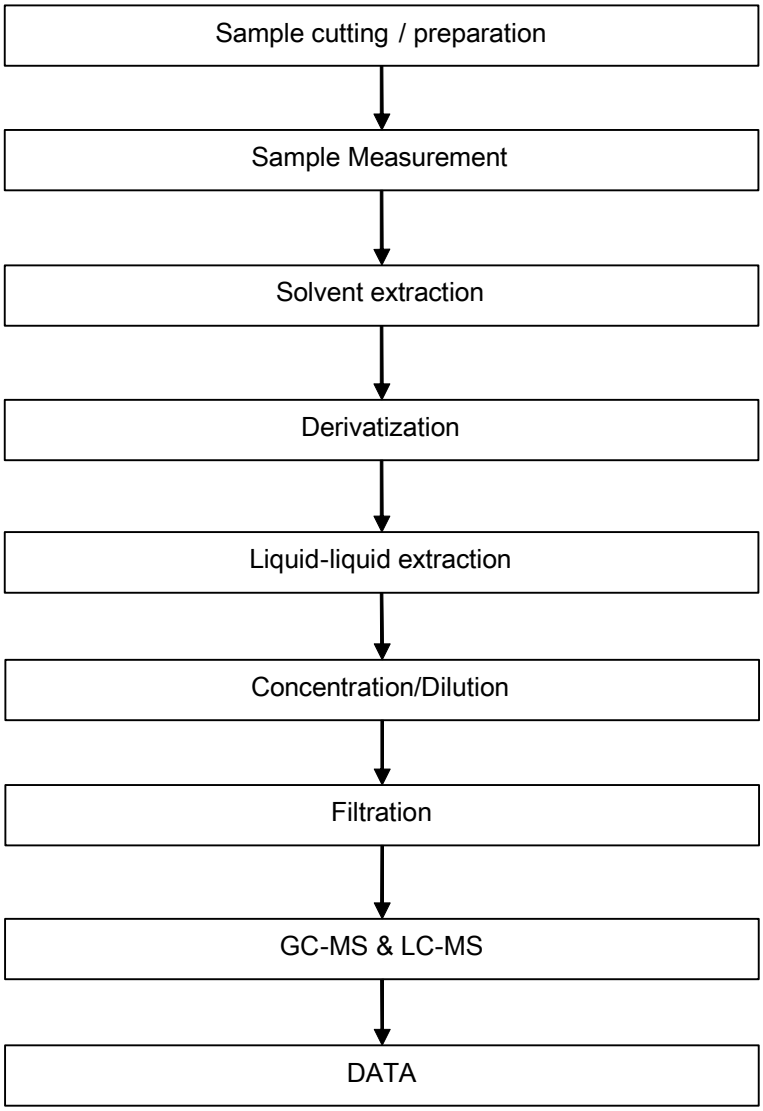
TBBP-A Testing Flow Chart



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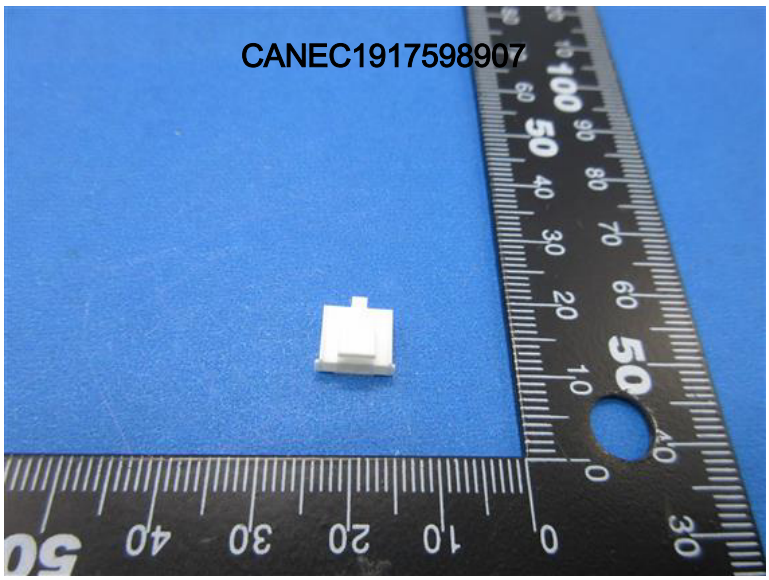
Sample photo:



CAN19-175989.003

SGS authenticate the photo on original report only

*** End of Report ***

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SHENGLAN TECHNOLOGY CO.,LTD.

NO.4HECING ROAD SHATOU SOUTHERN DISTRICT CHANGAN TOWN DONGGUAN CITY GUANGDONG PROVINCE 523863 CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Phosphor copper nickel plating gold-plated terminal

SGS Job No. :	CP19-059002 - SZ
Model No. :	12003
Client Ref. Info. :	PLEASE SEE REMARK
Date of Sample Received :	04 Nov 2019
Testing Period :	04 Nov 2019 - 12 Nov 2019
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 selected part of 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

Dongyu Xie
Approved Signatory

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

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-216501.007	Brassy 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, analyzed by ICP-OES and UV-Vis .

Test Item(s)	Limit	Unit	MDL	*007*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	18
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▾	-	µg/cm²	0.10	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
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:12586 37,25

(2) ▾= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². 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/cm²). The coating is considered a non-CrVI based coating

c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.

Elementary Analysis

Test Method : SGS In-house method (GZTC CHEM-TOP-009-01, with reference to US EPA Method 3050B:1996), analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	*007*
Beryllium (Be)	mg/kg	5	ND

Perfluorooctanoic acid (PFOA) & Perfluorooctane sulfonates (PFOS)

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

Test Item(s)	CAS NO.	Unit	MDL	007
Perfluorooctanoic acid (PFOA)	335-67-1	µg/m²	1.0	ND
Perfluorooctane Sulfonates (PFOS)^	-	µg/m²	1.0	ND

Notes :

^ PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn

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REMARK

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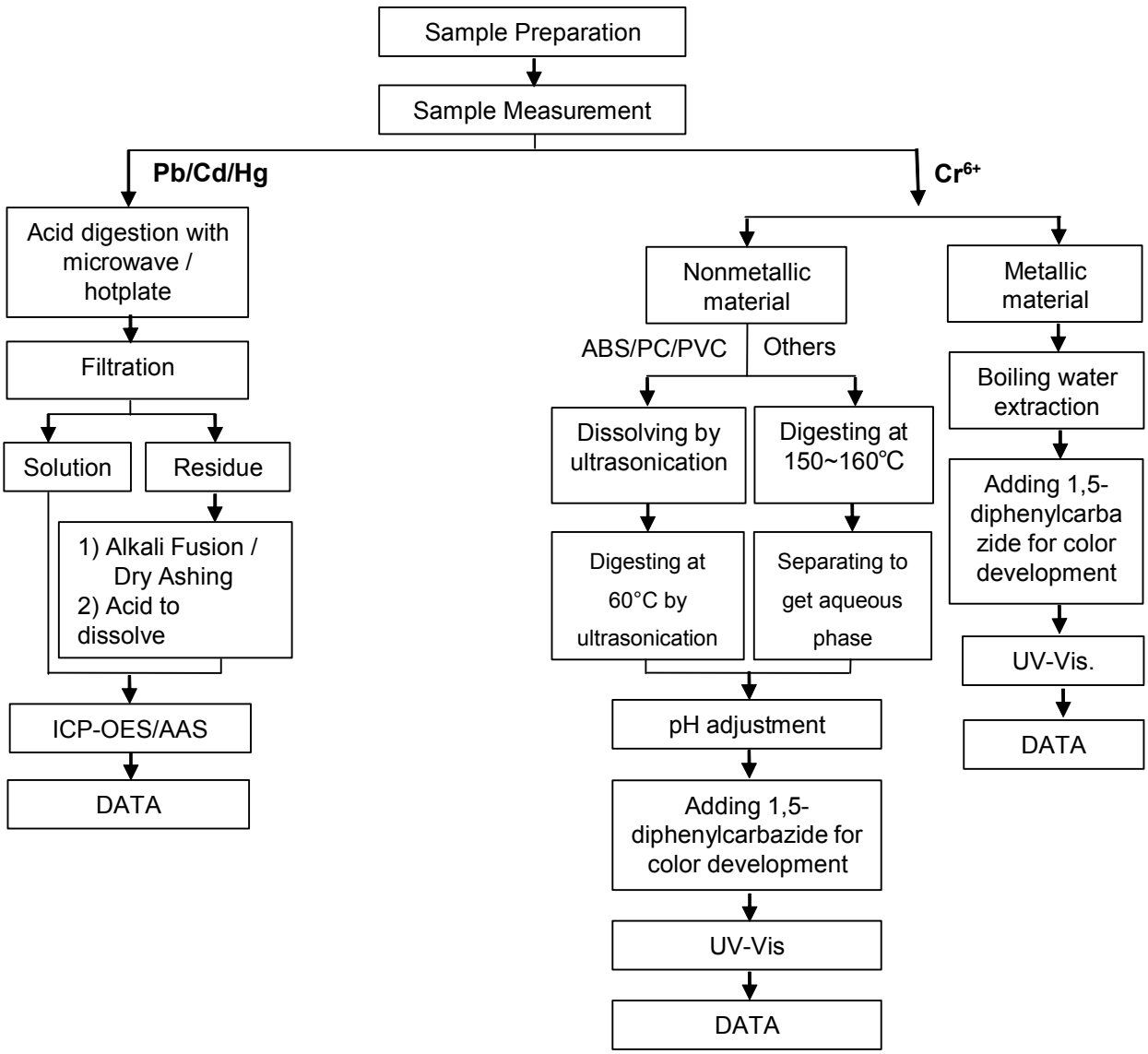
Phosphor copper nickel plating gold-plated pin needle

ATTACHMENTS

Pb/Cd/Hg/Cr^{6+} Testing Flow Chart

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



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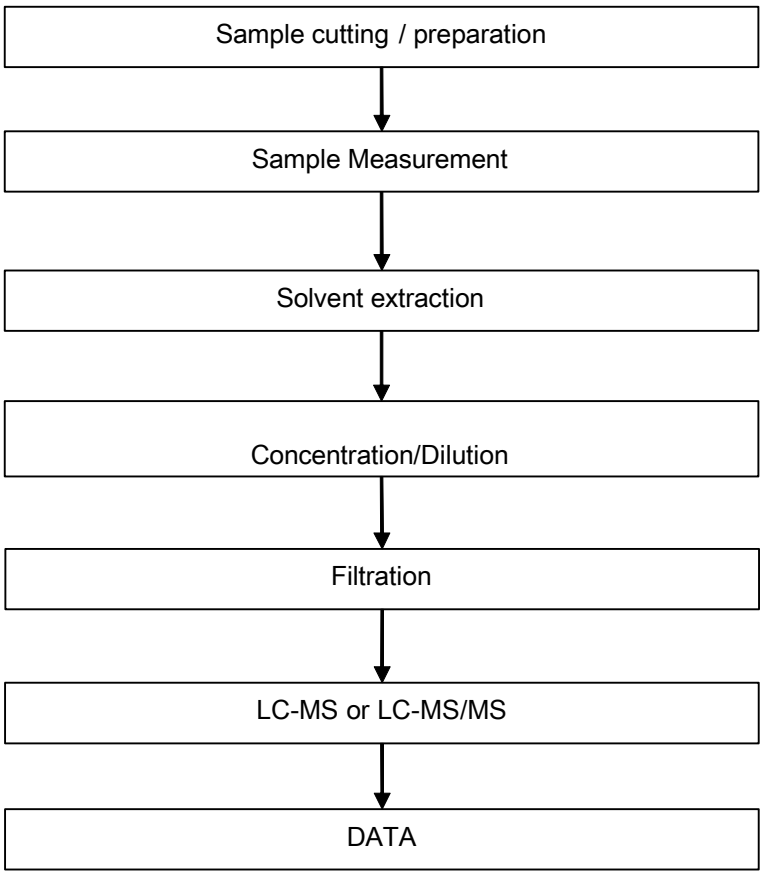
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

ATTACHMENTS

PFOA / PFOS Testing Flow Chart



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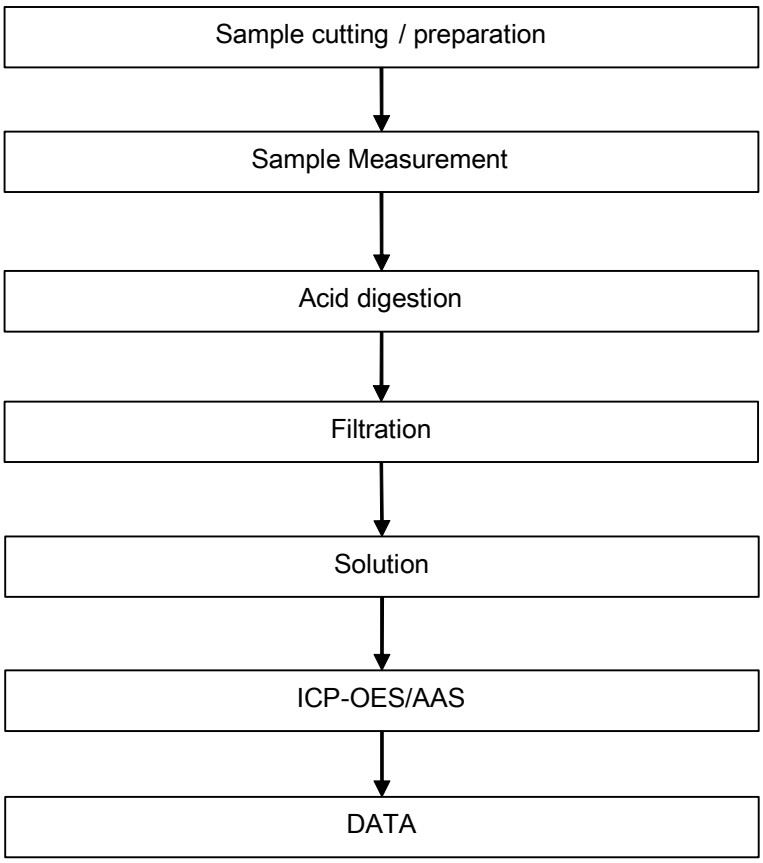
ATTACHMENTS

Elementary Testing Flow Chart



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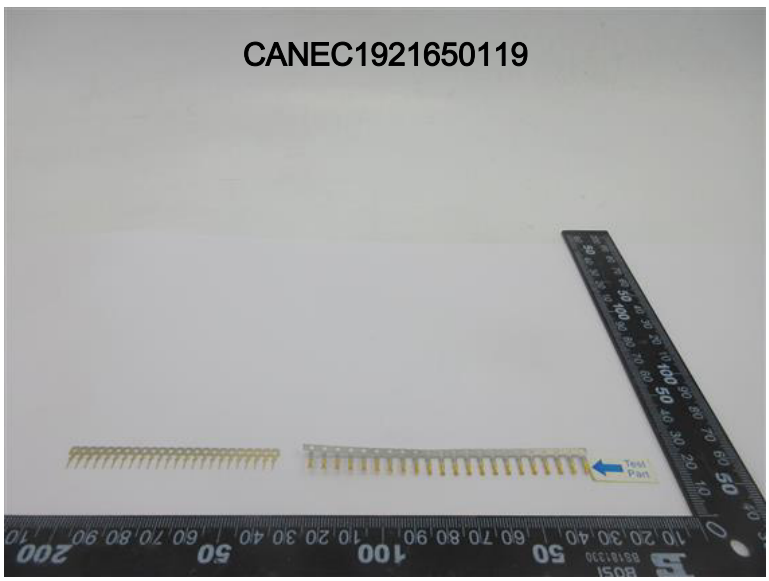
Sample photo:



CAN19-216501.007

SGS authenticate the photo on original report only

*** End of Report ***

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SHENGLAN TECHNOLOGY CO.,LTD.

NO.4HECING ROAD SHATOU SOUTHERN DISTRICT CHANGAN TOWN DONGGUAN CITY GUANGDONG PROVINCE 523863 CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Brass copperplating nickel gold –plated terminalsand

SGS Job No. :	CP19-059002 - SZ
Model No. :	12541
Client Ref. Info. :	PLEASE SEE REMARK
Date of Sample Received :	04 Nov 2019
Testing Period :	04 Nov 2019 - 12 Nov 2019
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 selected part of 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

Dongyu Xie
Approved Signatory

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

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-216501.005	Brassy 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, analyzed by ICP-OES and UV-Vis .

Test Item(s)	Limit	Unit	MDL	*005*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	24
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▾	-	µg/cm²	0.10	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
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:12586 37,25

(2) ▾= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². 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/cm²). The coating is considered a non-CrVI based coating

c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.

Elementary Analysis

Test Method : SGS In-house method (GZTC CHEM-TOP-009-01, with reference to US EPA Method 3050B:1996), analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	*005*
Beryllium (Be)	mg/kg	5	ND

Perfluorooctanoic acid (PFOA) & Perfluorooctane sulfonates (PFOS)

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

Test Item(s)	CAS NO.	Unit	MDL	005
Perfluorooctanoic acid (PFOA)	335-67-1	µg/m²	1.0	ND
Perfluorooctane Sulfonates (PFOS)^	-	µg/m²	1.0	ND

Notes :

^ PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

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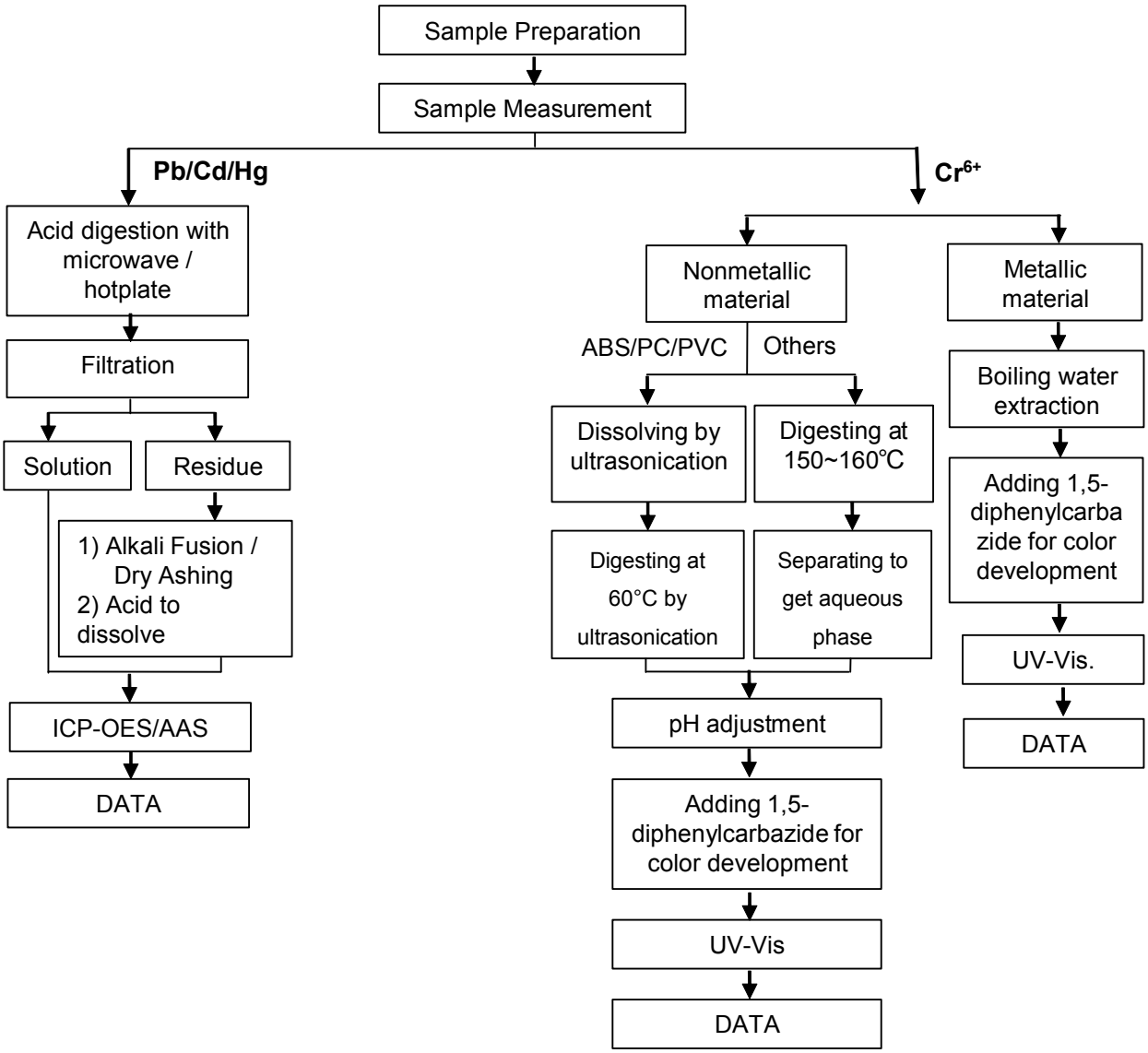
Brass copperplating nickel gold -plated pin needle and welding pieces

ATTACHMENTS

Pb/Cd/Hg/Cr^{6+} Testing Flow Chart

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



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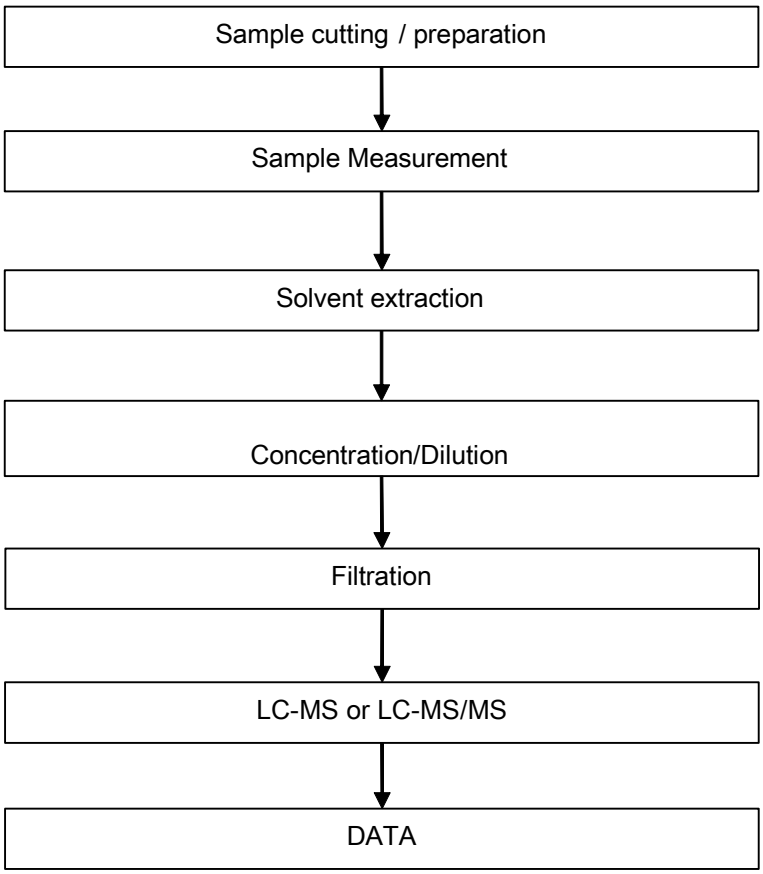
ATTACHMENTS

PFOA / PFOS Testing Flow Chart



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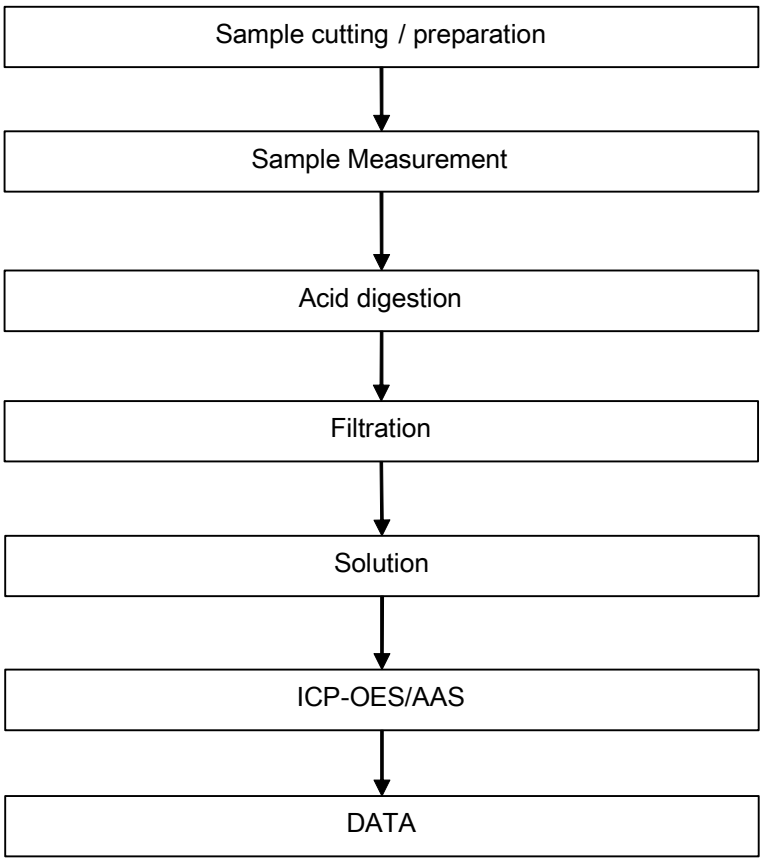
ATTACHMENTS

Elementary Testing Flow Chart



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Sample photo:

CAN19-216501.005

SGS authenticate the photo on original report only

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SHENGLAN TECHNOLOGY CO.,LTD.

NO.4HECING ROAD SHATOU SOUTHERN DISTRICT CHANGAN TOWN DONGGUAN CITY GUANGDONG PROVINCE 523863 CHINA

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

SGS Job No. :	CP19-031401 - SZ
Tested Sample Info. :	Black Toner
Client Ref. Info. :	SL10-0004、SL10-0076
Date of Sample Received :	14 Jun 2019
Testing Period :	14 Jun 2019 - 25 Jun 2019
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

Zmguan

Zm guan
Approved Signatory

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-113619.002	Black powder

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 62321-7-2:2017 , 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	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	8	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

Test Item(s)	Limit	Unit	MDL	*002*
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)	1,000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1,000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1,000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1,000	mg/kg	50	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.IEC 62321 series is equivalent to EN 62321 series http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25

Elementary Analysis

Test Method : SGS In-house method (GZTC CHEM-TOP-004-01, with reference to US EPA Method 3052:1996), analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	*002*
Tin (Sn)	mg/kg	5	ND
Antimony (Sb)	mg/kg	10	ND

Tetrabromobisphenol A (TBBP-A)

Test Method : SGS In-house method (GZTC CHEM-TOP-065, with reference to US EPA Method 3540C:1996), analysis was performed by GC-MS&HPLC-MS.

Test Item(s)	Unit	MDL	*002*
Tetrabromobisphenol A (TBBP-A)	mg/kg	10	ND

Phthalate

Test Method : With reference to EN14372: 2004. Analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	002
Dibutyl Phthalate (DBP)	84-74-2	%(w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%(w/w)	0.003	ND
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%(w/w)	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.010	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%(w/w)	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.010	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%(w/w)	0.003	ND
Diisobutyl Phthalate (DIBP)	84-69-5	%(w/w)	0.003	ND
Diethyl Phthalate (DEP)	84-66-2	%(w/w)	0.003	ND
Dimethyl Phthalate (DMP)	131-11-3	%(w/w)	0.003	ND
Diisooctyl Phthalate (DIOP)	27554-26-3	%(w/w)	0.010	ND
Dipropyl Phthalate (DPrP)	131-16-8	%(w/w)	0.003	ND
Dicyclohexyl Phthalate (DCHP)	84-61-7	%(w/w)	0.003	ND
Di-n-pentyl Phthalate (DnPP)	131-18-0	%(w/w)	0.003	ND
Dibenzyl Phthalate (DBzP)	523-31-9	%(w/w)	0.003	ND
Diphenyl Phthalate (DPhP)	84-62-8	%(w/w)	0.003	ND
Di(2-ethyhexyl)adipate (DEHA)	103-23-1	%(w/w)	0.003	ND
Diisopentyl Phthalate (DIPP)	605-50-5	%(w/w)	0.003	ND
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	%(w/w)	0.010	ND
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	%(w/w)	0.010	ND
Di-n-heptyl Phthalate (DnHpP)	3648-21-3	%(w/w)	0.003	ND
Dinonyl Phthalate (DNP)	84-76-4	%(w/w)	0.003	ND
Bis(2-methoxyethyl) Phthalate (DMEP)	117-82-8	%(w/w)	0.003	ND

Notes :

(1) DBP,BBP,DEHP, DIBP Reference information: Entry 51 of Regulation (EU) No2018/2005 amending Annex XVII of REACH Regulation (EC) No 1907/2006:

i) Shall not be used as substances or in mixtures, individually or in any combination of DBP, BBP, DEHP & DIBP, in concentrations equal to or greater than 0.1 % by weight of the plasticised material, in toys and childcare articles.

ii) Shall not be placed on the market in toys or childcare articles, individually or in any combination of DBP, BBP, DEHP, in concentrations equal to or greater than 0.1 % by weight of the plasticised material. In addition, DIBP shall not be placed on the market after 7 July 2020 in toys or childcare articles, individually or in any combination of DBP, BBP, DEHP & DIBP, in concentrations equal to or greater than 0.1 % by weight of the plasticised material.

iii) shall not be placed on the market after 7 July 2020 in articles, individually or in any combination of DBP, BBP, DEHP & DIBP, in concentrations equal to or greater than 0.1 % by weight of the plasticised

material in the articles.
Please refer to Regulation (EU) No 2018/2005 to get more detail information.
(2) DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information.

Phthalate(s)

Test Method : With reference to SGS in house method (SGS-CCL-TOP-042-41) , analysis was performed by LC-MS.

Test Item(s)	CAS NO.	Unit	MDL	002
Phthalic acid, mono-2-ethylhexyl ester(MEHP)	4376-20-9	%(w/w)	0.003	ND

European Regulation (EC) No. 850/2004 and its amendment Regulation (EU) 2015/2030 -Chlorinated Paraffins --Articles

Test Method : With reference to ISO 18219: 2015, analysis was performed by GC-NCI-MS / GC-ECD.

Test Item(s)	Limit	Unit	MDL	002
Alkanes C10-C13, chloro (short-chain chlorinated paraffins) (SCCPs)	1500	mg/kg	50	ND
Comment				**PASS**
Alkanes C14-C17, chloro (medium -chain chlorinated paraffins) (MCCPs)	-	mg/kg	50	ND

Hexabromocyclododecane (HBCDD)

Test Method : SGS in house method (GZTC CHEM-TOP-073, with reference to US EPA Method 3550C: 2007) , analysis was performed by GC-MS.

Test Item(s)	Unit	MDL	002
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD)	mg/kg	10	ND

PFOA & PFOS (Perfluorooctanoic acid & Perfluorooctane sulfonates)

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

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Test Item(s)	CAS NO.	Unit	MDL	002
Perfluorooctanoic acid (PFOA)	335-67-1	mg/kg	0.01	ND
Perfluorooctane Sulfonates (PFOS)^		mg/kg	0.01	ND

Notes :

(1) ^: PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

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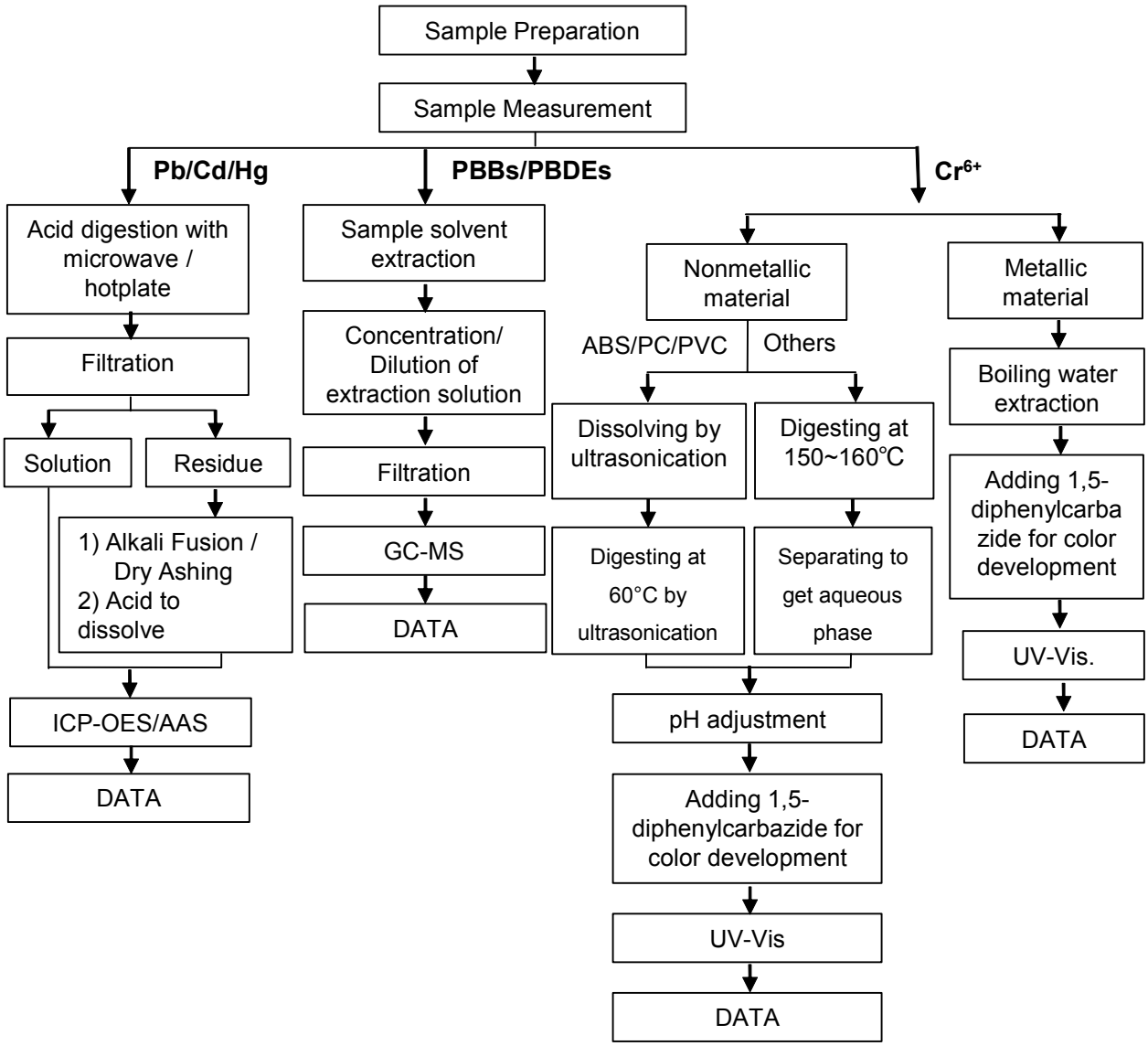
Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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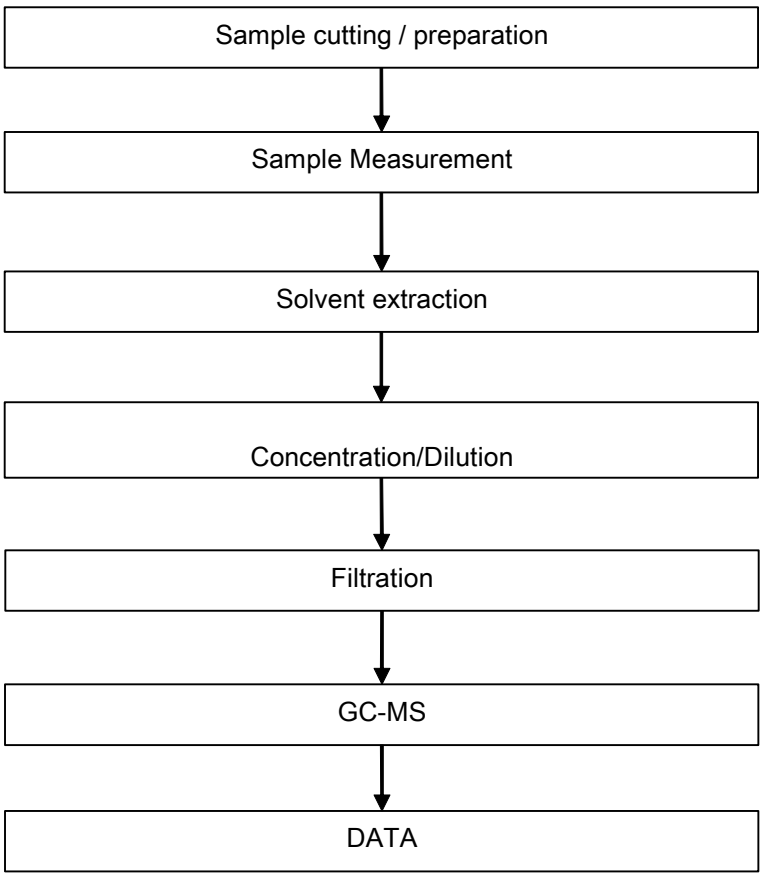
Phthalates Testing Flow Chart



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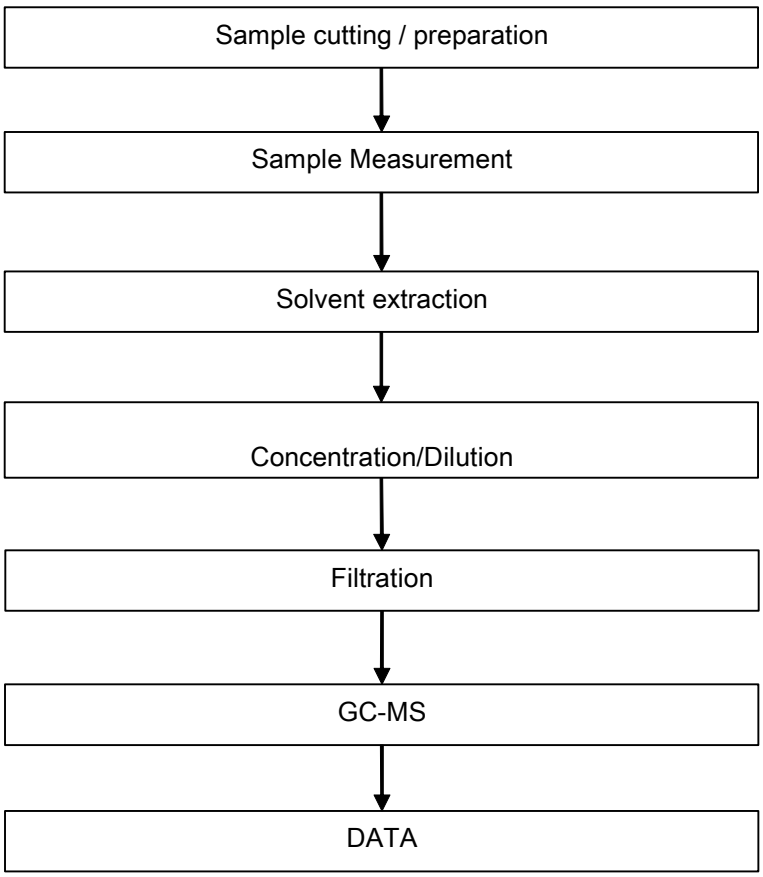
HBCDD Testing Flow Chart



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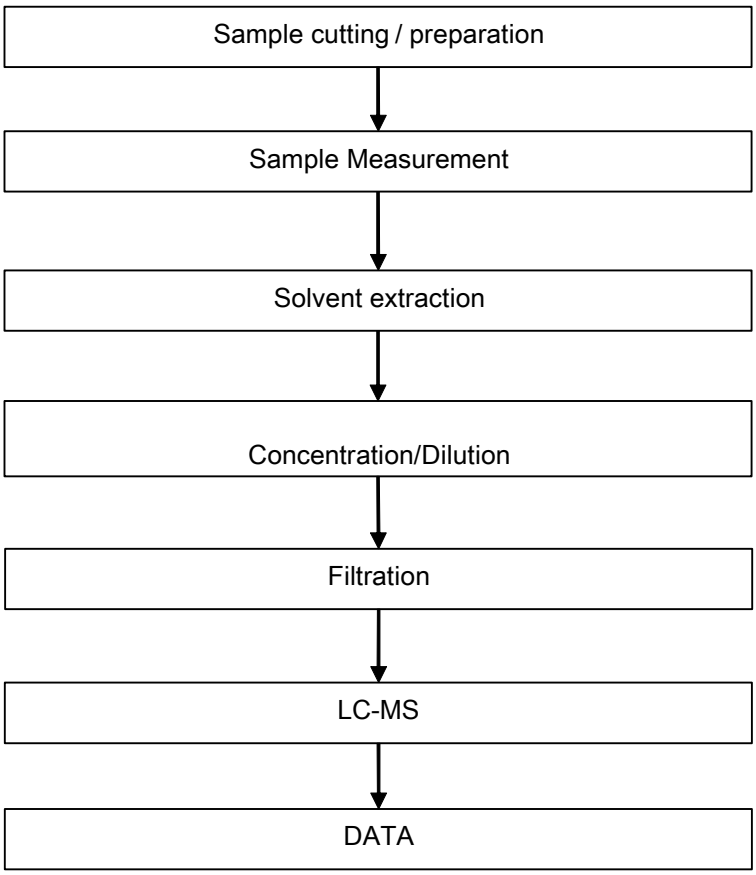
PFOA / PFOS Testing Flow Chart



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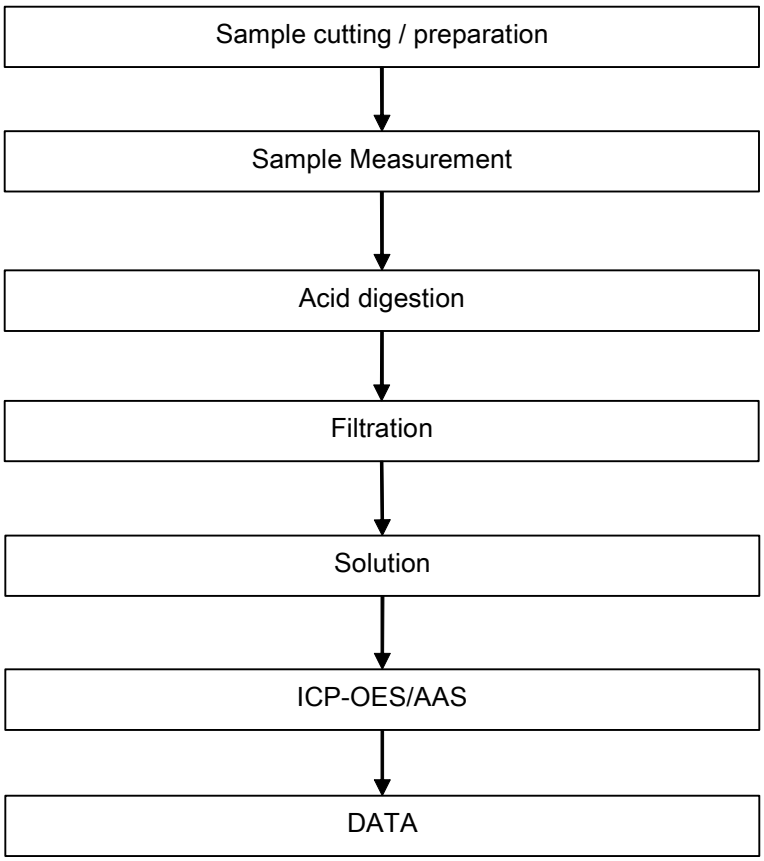
Elementary Testing Flow Chart



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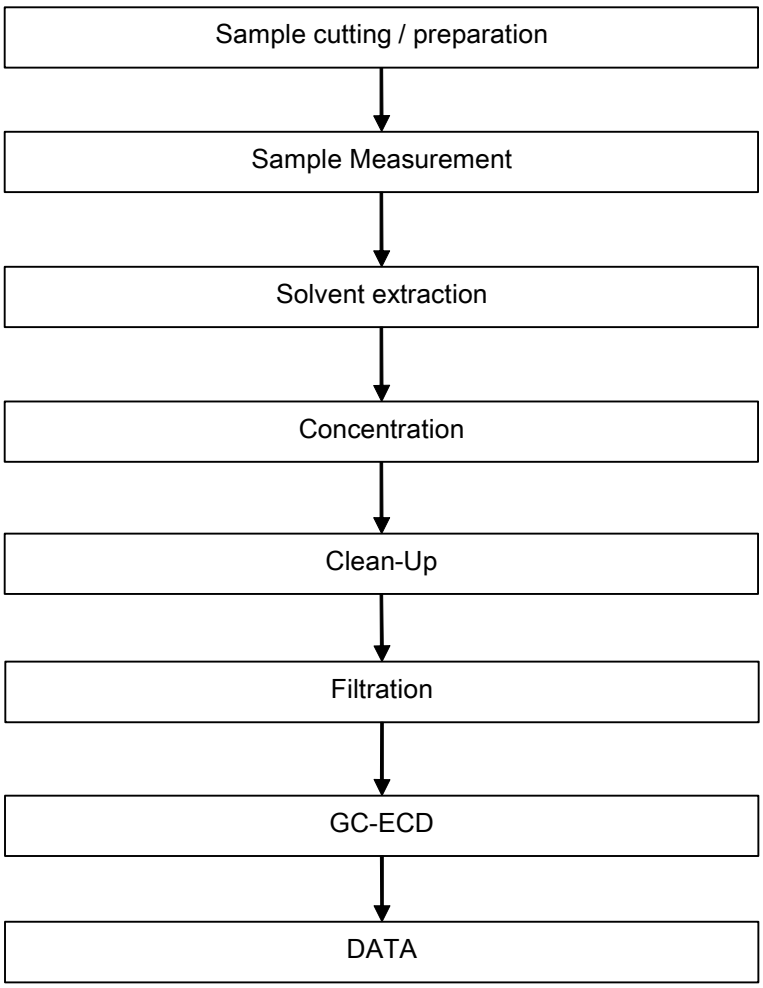
SCCP/MCCP/LCCP Testing Flow Chart



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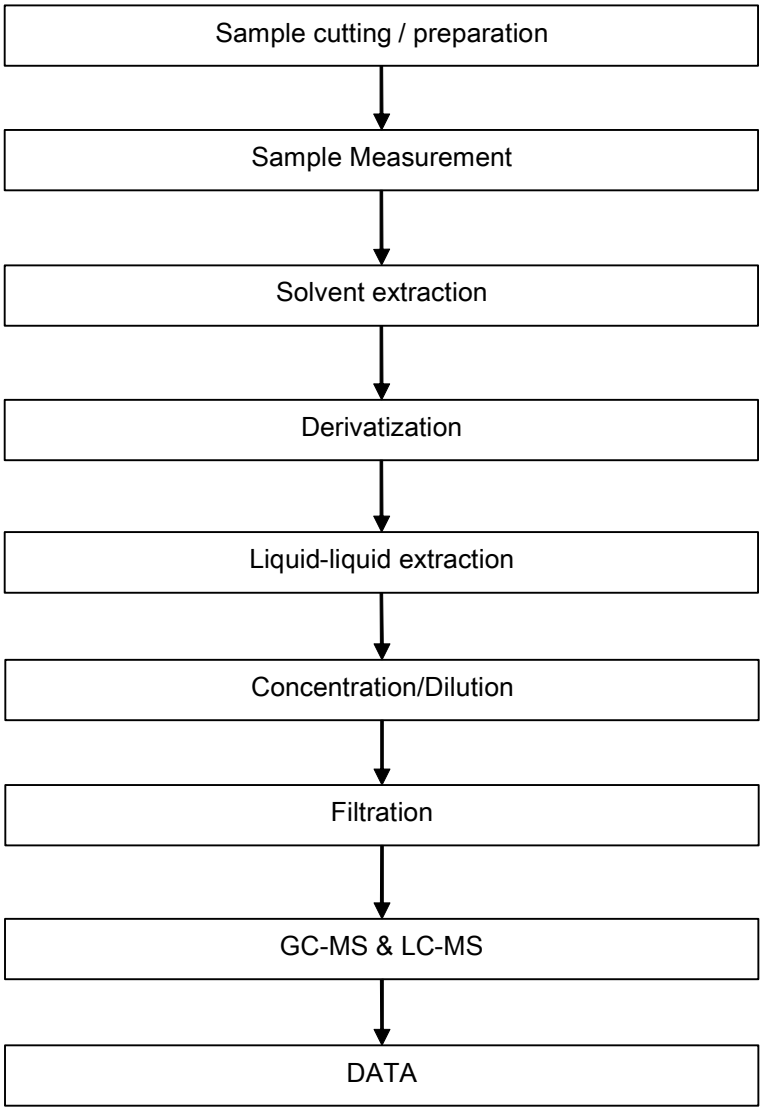
TBBP-A Testing Flow Chart



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Sample photo:

CAN19-113619.002

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弘源碩電子材料有限公司

HungYuanShuo Electronic Accessories CO.,LTD

产品规格承认书

版本：A/1

产品名称	H无卤环保热缩套管	供应商代码	
规格/型号	所有系列	客户编号	

供應商確認（弘源碩電子材料有限公司）

拟制/日期	审核/日期
范松林 / 2012 年 1 月 15 日	宋大春 / 2012 年 1 月 15 日

客戶確認

客户批准/日期		

公司地址：深圳市寶安區沙井街道辦中心路匯盈商務大廈十三樓1301，1302室

邮　编：518104

电　话：0755-29308589

传　真：0755-29308085

网　址：www.lyc-hys.com

1 主题内容与适用范围

本承认书规定了无卤环保阻燃型热收缩套管的技术要求、试验方法、检验规则以及包装等内容。

本承认书适用于电线连接、焊点保护、电线端部处理、线束及电子元器件的防护和绝缘处理、健身器材零部件和钢结构表面防护、相关产品的防锈和防腐处理、电线和其它产品的标识等用途的无卤阻燃型热收缩套管。

2 引用标准

Standard for Extruded Electrical Tubing UL 224。

3 术语

3．1 热收缩材料

以可塑性线型高聚物或高聚物合金为基材，用高能辐照方法或化学方法使聚合物分子链部分交联成为网状结构获得弹性“记忆效应”，经加热扩张至特定尺寸后冷却定型，使用时加热到适当温度后自行收缩到扩张前的形状和尺寸，这种材料称为热收缩材料。

3．2 热收缩套管

将上述高聚物或高聚物合金通过挤出成型得到规定尺寸的管状中间产品，辐照（或化学）交联后加热扩张，冷却定型得到的具有一定尺寸的管状产品成为热收缩套管。

3. 3 绿色 RSFR 无卤阻燃热收缩材料

在热收缩材料中添加一定量的不含卤素、重金属等对环境有害的阻燃剂，使之符合一定阻燃要求和环保要求，则成为绿色 RSFR 无卤阻燃热收缩材料。

4 技术要求

4．1 使用条件

4．1．1 连续使用的环境温度：-55℃～125℃。

4．1．2 可在酸、碱条件下长期使用。

4．1．3 可在环保要求严格的条件下长期使用。

4．2 表观要求

4．2．1 制品表面无明显划伤、凹凸不平、竹节状缺陷。

4．2．2 表面光洁、无油污、无积尘。

4．2．3 印字清晰、无重影、无多余墨迹、无印不全或打滑现象。

4．3 热收缩性能

4．3．1 起始收缩温度 70℃；超薄型完全收缩温度 110℃，普通型完全收缩温度 125℃。

按照 UL224 标准，完全收缩到位温度为 200℃，3 分钟。

4．3．2 纵向收缩率不超过±5%

4．4 材料的性能特性

材料的理化性能符合表 1 规定。

4．5 收缩套管的产品尺寸

无卤阻燃型薄壁热收缩套管的产品尺寸符合表 2 规定，无卤阻燃型热收缩套管的产品尺寸符合表 3 规定。

4. 6 颜色

标准颜色：黑色、红色、蓝色、黄色、绿色、白色，其它颜色如紫色、灰色、棕色等可根据客户要求定做。

4.7 使用方法

在使用过程中，为了保证热缩套管能完全收缩到位，使用强制鼓风式恒温烘箱，并将收缩温度控制在 125℃。特别注意，当把热缩套管放入烘箱过程中，烘箱温度有一下降趋势，要达到设定温度需要一定的时间；同时，在烘箱内通过热空气循环流动使热缩套管达到最终收缩温度同样需要一定

的时间。因此，必须在烘箱实际温度达到设定温度并保持该温度 3 分钟左右，热缩套管才能完全收缩到位。

表 1　　无卤阻燃型热收缩套管的性能特性

性能			测试方法	性能指标
物理性能	拉伸强度/MPa		GB/T1040	≥10.4
	断裂伸长率/%		GB/T1040	≥200
	热老化后拉伸强度/MPa		UL224；158℃×168hr	≥7.3
	热老化后断裂伸长率/%		UL224；158℃×168hr	≥100
	耐热冲击		UL224；250℃×4hr	不发粘,不龟裂
	抗冷弯曲		UL224；-30℃×1hr	不龟裂
电气性能	耐压	300V	UL224	2500V 不击穿
		600V	UL224	2500V 不击穿
	击穿强度/KV/mm		GB/T1408	≥15
	体积电阻率/Ω•cm		GB/T1410	≥1×10^{14}
化学性能	铜安定性		UL224；158℃×168hr	PASS
	抗腐蚀性		UL224；158℃×168hr	PASS
	阻燃性		UL224	VW-1

表 2　H-CB 管（无卤阻燃型薄壁热收缩套管）的产品尺寸

规格	收缩前尺寸（mm）		收缩后尺寸（mm）		旧包装	新包装	适用范围
（mm）	内径	壁厚	内径	壁厚	米/盘	米/盘	（mm)
Φ0.6CB	0.90±0.2	0.13±0.05	≤0.40	0.20±0.10	200	400	0.4～0.7
Φ0.8CB	1.10±0.2	0.13±0.05	≤0.50	0.20±0.10	200	400	0.6～0.8
Φ1.0CB	1.40±0.2	0.13±0.05	≤0.65	0.20±0.10	200	400	0.7～1.0
Φ1.5CB	1.90±0.2	0.13±0.05	≤0.85	0.20±0.10	200	400	0.9～1.4
Φ2.0CB	2.40±0.2	0.13±0.05	≤1.00	0.22±0.10	200	400	1.1～1.8
Φ2.5CB	2.90±0.2	0.13±0.05	≤1.30	0.25±0.10	200	400	1.4～2.3
Φ3.0CB	3.40±0.2	0.13±0.05	≤1.50	0.28±0.10	200	400	1.6～2.7
Φ3.5CB	3.90±0.2	0.13±0.05	≤1.80	0.28±0.10	200	400	1.9～3.2
Φ4.0CB	4.40±0.2	0.15±0.05	≤2.00	0.30±0.10	200	400	2.1～3.6
Φ4.5CB	4.90±0.2	0.15±0.05	≤2.30	0.30±0.10	100	200	2.4～4.0
Φ5.0CB	5.50±0.2	0.15±0.05	≤2.5	0.32±0.10	100	200	2.6～4.5
Φ6.0CB	6.50±0.2	0.15±0.05	≤3.0	0.32±0.10	100	200	3.1～5.4
Φ7CB	7.50±0.3	0.15±0.05	≤3.5	0.32±0.10	200	200	3.7～6.3
Φ8CB	8.50±0.3	0.15±0.05	≤4.0	0.32±0.10	200	200	4.2～7.2
Φ9CB	9.50±0.3	0.15±0.05	≤4.5	0.35±0.10	200	200	4.7～8.0
Φ10CB	10.5±0.3	0.15±0.05	≤5.0	0.35±0.10	200	200	5.2～9.0

Φ11CB	11.5±0.3	0.18±0.05	≤5.5	0.40±0.10	200	200	5.7～10.0
Φ12CB	12.5±0.3	0.20±0.05	≤6.0	0.40±0.10	200	200	6.2～11.0
Φ13CB	13.5±0.3	0.20±0.05	≤6.5	0.40±0.10	200	200	6.7～12.0
Φ14CB	14.5±0.3	0.20±0.05	≤7.0	0.40±0.10	200	200	7.3～13.0
Φ15CB	15.5±0.4	0.20±0.05	≤7.5	0.40±0.10	200	200	7.8～14.0
Φ16CB	16.5±0.4	0.22±0.05	≤8.0	0.40±0.10	200	200	8.3～15.8
Φ17CB	17.5±0.4	0.22±0.05	≤8.5	0.40±0.10	200	200	8.8～16.0
Φ18CB	18.5±0.4	0.22±0.05	≤9.0	0.42±0.10	200	200	9.3～17.0
Φ20CB	20.5±0.5	0.25±0.05	≤10.0	0.45±0.10	200	200	10.5～19.0
Φ22CB	22.5±0.5	0.25±0.05	≤11.0	0.45±0.10	200	200	11.5～20.5
Φ25CB	25.5±0.5	0.25±0.05	≤12.5	0.45±0.10	100	100	13.0～24.0

E203950 WOER RSFR(CB) TUBE 125℃ VW-1 H （Φ9CB）

表3 H管（无卤阻燃型热收缩套管）的产品尺寸要求

规格（mm）	收缩前尺寸（mm）		收缩后尺寸（mm）		旧包装	新包装	适用范围（mm）
	内径	壁厚	最大内径	壁厚	米/盘	米/盘	（mm）
Φ0.6	0.9±0.2	0.18±0.05	≤0.40	0.33±0.10	200	400	0.4～0.7
Φ0.8	1.1±0.2	0.18±0.05	≤0.50	0.33±0.10	200	400	0.6～0.8
Φ1.0	1.5±0.2	0.20±0.05	≤0.65	0.36±0.10	200	400	0.75～0.9
Φ1.5	2.0±0.2	0.20±0.05	≤0.85	0.36±0.10	200	400	0.95～1.4
Φ2.0	2.5±0.2	0.20±0.05	≤1.00	0.45±0.10	200	400	1.1～1.8
Φ2.5	3.0±0.2	0.20±0.05	≤1.30	0.45±0.10	200	400	1.35～2.3
Φ3.0	3.5±0.2	0.23±0.05	≤1.50	0.45±0.10	200	400	1.6～2.7
Φ3.5	4.0±0.2	0.23±0.05	≤1.80	0.45±0.10	200	400	1.85～3.2
Φ4.0	4.5±0.2	0.25±0.05	≤2.00	0.45±0.10	200	400	2.1～3.6
Φ4.5	5.0±0.2	0.28±0.05	≤2.30	0.56±0.10	100	200	2.35～4.0
Φ5.0	5.5±0.2	0.28±0.05	≤2.50	0.56±0.10	100	200	2.6～4.5
Φ6.0	6.5±0.2	0.28±0.05	≤3.00	0.56±0.10	100	200	3.1～5.4
Φ7.0	7.5±0.3	0.30±0.05	≤3.50	0.56±0.10	100	100	3.7～6.3
Φ8.0	8.5±0.3	0.30±0.08	≤4.00	0.56±0.10	100	100	4.2～7.2
Φ9.0	9.5±0.3	0.30±0.08	≤4.50	0.56±0.10	100	100	4.7～8.0
Φ10	10.5±0.3	0.30±0.08	≤5.00	0.56±0.10	100	100	5.2～9.0
Φ11	11.5±0.3	0.30±0.08	≤5.50	0.56±0.10	100	100	5.7～10
Φ12	12.5±0.3	0.30±0.08	≤6.00	0.56±0.10	100	100	6.2～11
Φ13	13.5±0.3	0.35±0.08	≤6.50	0.56±0.10	100	100	6.7～12
Φ14	14.5±0.3	0.35±0.10	≤7.00	0.70±0.10	100	100	7.3～13
Φ15	15.5±0.4	0.35±0.10	≤7.50	0.70±0.10	100	100	7.8～14

规格（mm）	收缩前尺寸（mm）		收缩后尺寸（mm）		旧包装	新包装	适用范围（mm）
Φ16	16.5±0.4	0.35±0.10	≤8.00	0.70±0.10	100	100	8.3～15
Φ17	17.5±0.4	0.35±0.10	≤8.50	0.70±0.10	100	100	8.8～16
Φ18	19.0±0.5	0.35±0.10	≤9.00	0.70±0.10	100	100	9.3～17
Φ20	22.0±0.5	0.40±0.10	≤10.00	0.83±0.10	100	100	10.4～19
Φ22	24.0±0.5	0.40±0.12	≤11.00	0.83±0.15	100	100	11.4～21
Φ25	26.0±0.5	0.45±0.12	≤12.50	0.90±0.15	50	50	12.8～24
Φ28	29.0±0.5	0.45±0.12	≤14.00	0.90±0.15	50	50	14.4～29
Φ30	31.5±1.0	0.45±0.12	≤15.00	1.00±0.15	50	50	16～29
Φ35	36.5±1.0	0.45±0.12	≤17.50	1.00±0.15	50	50	18～34
Φ40	41.5±1.0	0.50±0.12	≤20.00	1.00±0.15	50	50	21～39
Φ45	46.5±1.0	0.50±0.15	≤22.50	1.00±0.20	25	25	23.5～44
Φ50	≥50	0.50±0.15	≤25.00	1.10±0.20	25	25	26～49

E203950 Ⓦ WOER RSFR-H TUBE 125℃ VW-1 H （Φ9）

注:Φ30及以上规格产品默认为G管（环保性能符合欧盟RoHS 2002/95/EC标准）。如果客户需H无卤热缩套管，须在订单上注明。

4.8 环境物质

本承认书承诺不使用以下物质，四大重金属、多溴联苯（PBB）、多溴联苯醚（PBDE）、卤素等通过SGS检测。无卤阻燃型热收缩套管的环保特性列于表4。

1. 多氯化联苯(PCB)类
2. 多氯化萘(PCN)类
3. 氯化石蜡
4. 灭蚁灵（Mirex）
5. 其它有机氯化合物
6. 有机溴化合物-多溴联苯（PBB）
7. 有机溴化合物-多溴联苯醚（PBDE）
8. 有机锡化合物（三丁基锡化合物和三苯基锡化合物）
9. 石棉
10. 偶氮化合物
11. 甲醛

表4 无卤阻燃型热收缩套管的环保特性

环境物质	含量	测试方法
氟（F）	≤200PPM	EN 14582 Method B
氯（Cl）	≤900ppm	EN 14582 Method B
溴（Br）	≤900ppm	EN 14582 Method B
碘（I）	≤200PPM	EN 14582 Method B

镉（Cd）	≤5ppm	IEC 62321
铅（Pb）	≤90ppm	IEC 62321
铬（Cr^{6+}）	≤5ppm	IEC 62321
汞（Hg）	≤5ppm	IEC 62321
砷（As）	≤50ppm	EPA 3052
钡（Ba）	≤1000ppm	EPA 3052
锑(Sb)	≤60ppm	EPA 3052
硒（Se）	≤25ppm	EPA 3052

备注：氯（Cl）+ 溴（Br）<1500ppm

5.材质证明书

材 质 证 明 书

沃尔核材股份有限公司无卤环保型 RSFR-H 热缩套管是一种阻燃型的热收缩套管，组成材料为聚烯烃加适量阻燃剂和助剂。产品中铅（Pb）、镉（Cd）、汞(Hg)、六价铬（Cr^{6+}）、多溴联苯(PBB)、多溴联苯醚(PBDE)等环境物质含量符合日本 SONY-SS-00259 和欧盟 RoHS 2002/95/EC 指令环保要求。其主要成份如下：

原料名称			使用目的	含量	供应商	CAS.NO.
中文	英文	分子式				
聚烯烃	Polyolefin	$(CH_2CH_2)n$	主剂	50%	北京有机	9002-88-4
氢氧化镁	Magnesium Hydroxide	$Mg(OH)_2$	阻燃剂	35%	锦昊辉	1309-42-8
磷系阻燃剂	Phosphorus	$(NH_4PO_3)n$	阻燃剂	10%	上海海以	7723-14-0
色母粒	Pigment	色母+填充剂	着色剂	5%	华万彩	——
油墨	Printing Ink	——	印字	——	上海捷信	——

6.技术资料

（1） UL/cUL 证书
（2） ISO9001 证书
（3） ISO14001 证书
（4） ISO/TS16949 证书
（5） SGS/ITS/CTI 检测报告

弘源碩電子材料有限公司
二零一二年一月十五日

ONLINE CERTIFICATIONS DIRECTORY

YDPU2.E203950
Tubing, Extruded Insulating - Component

Page Bottom

Tubing, Extruded Insulating - Component

See General Information for Tubing, Extruded Insulating - Component

SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD E203950
XINWEI INDUSTRIAL PARK, WOER MANSION
NANSHAN DISTRICT, XILI
SHENZHEN, GUANGDONG 518052 CHINA

Cat. No.	Max V	Max Temp C	Col Recognized	Max Temp Rated Oil Resistance C	VW-1 Rated #
Flexible Heat-Shrinkable Polyolefin Tubing					
RSFR	600	125	All except Clear	None	$
WKZM-x-yz	600	125	White	None	No
RSFR-H	600	125	All except Clear	None	Yes
RSFR(CB)	300	125	All except Clear	None	Yes
Not Heat-Shrinkable PTFE Tubing					
WF	600	200	Natural	None	Yes
Heat-Shrinkable Polyolefin Tubing with Meltable Liner					
SBRS	600	125	All except Clear	None	Yes
Not Heat-Shrinkable Standard Wall Silicone Tubing					
WST-600	600	150	White	None	@

x-yz - x represents tubing expanded ID, yz represents any alpha and/or numeric combination - for internal client code.

- Tubing is considered to comply with the optional VW-1 flammability requirements only if it is so marked for tubing authorized below.

@ - VW-1 rated for internal diameter sizes 6.50 - 15.00 mm only.

$ - VW-1 rated for Black color only.

Marking: Company name or file number "E203950", catalog number, voltage rating, temperature rating in degrees C, inside diameter (before and after recovery), and date of manufacture shall be marked on tags attached to both ends of the tubing, on the shipping spool label or on the smallest unit container.

Last Updated on 2008-04-30

Questions? Print this page Notice of Disclaimer Page Top

Test Report

Report No. A2190096126101003R1

Applicant SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD.

Address WOER INDUSTRIAL PARK, LANJING NORTH ROAD, LONGTIAN STREER,PINGSHAN DISTRICT, SHENZHEN, GUANGDONG.

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

Sample Name	PE masterbatch- Black
Sample Received Date	Apr. 26, 2019
Testing Period	Apr. 26, 2019 to Apr. 29, 2019

Test Requested 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).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Tested by Crit Qiu

Approved by Hill Zheng

Hill Zheng
Technical Manager

Reviewed by Tori Xia

Date May 17, 2019

No. R179757340

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Report No. A2190096126101003R1

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS

Test Report

Report No. A2190096126101003R1

Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb)	36 mg/kg	2 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg
Mercury(Hg)	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Test Report

Report No. A2190096126101003R1

Test Result(s)

Tested Item(s)	Result	MDL
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Sample/Part Description Black plastic grains

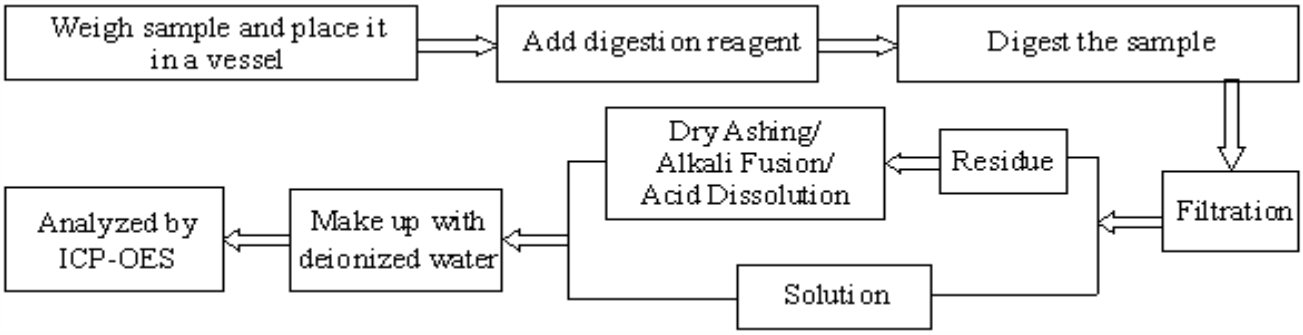
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

Note: **This testing report revised "Sample Name" based on the original report of No. A2190096126101003. This testing report displaces the original one which was invalid since the date of this testing report released.**

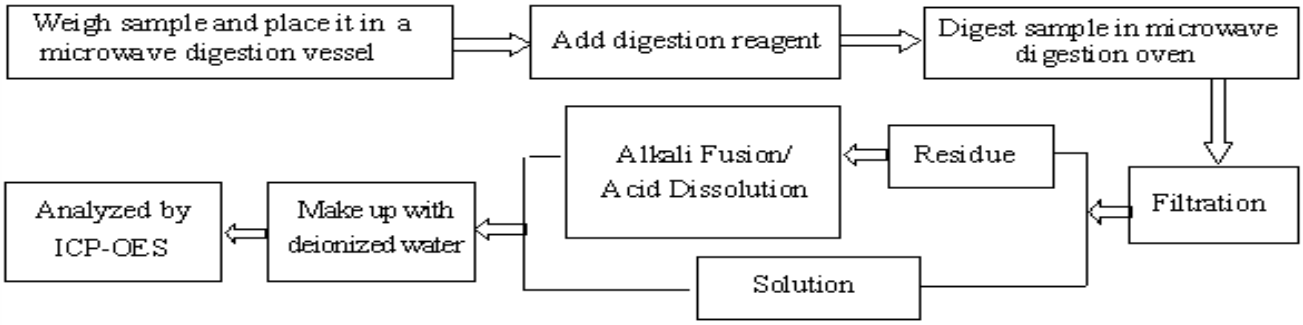
Test Report

Test Process

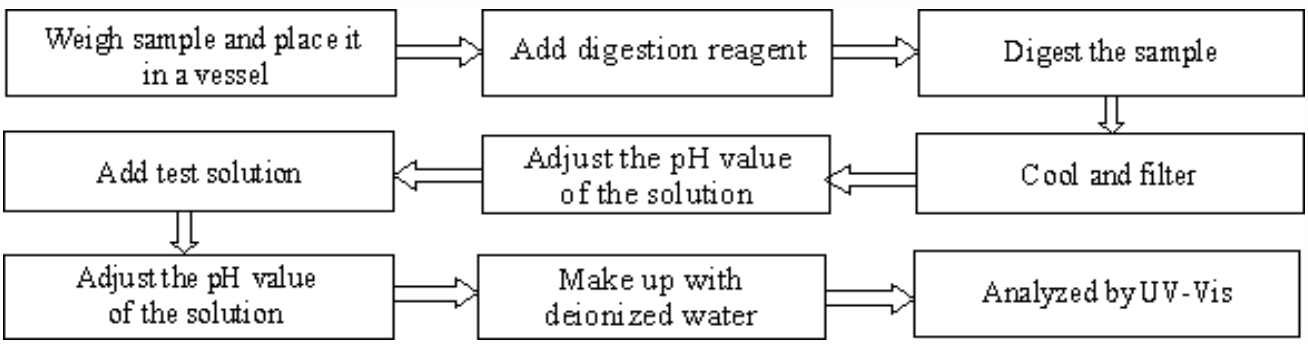
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



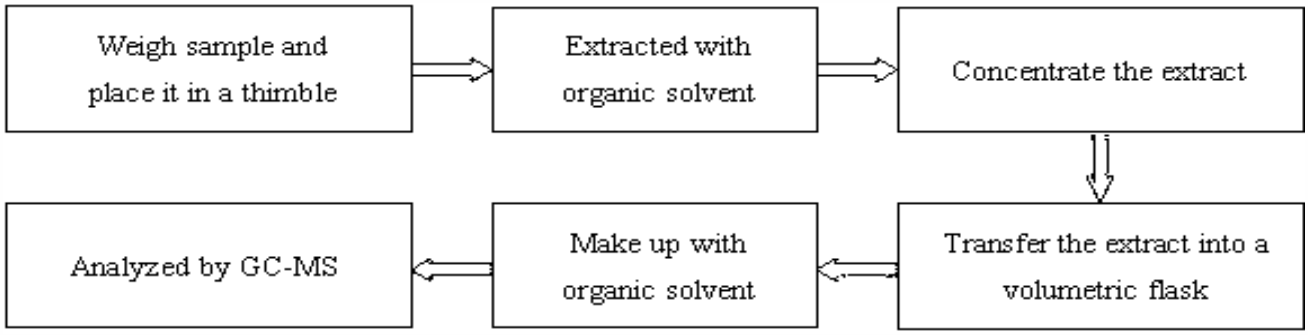
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))

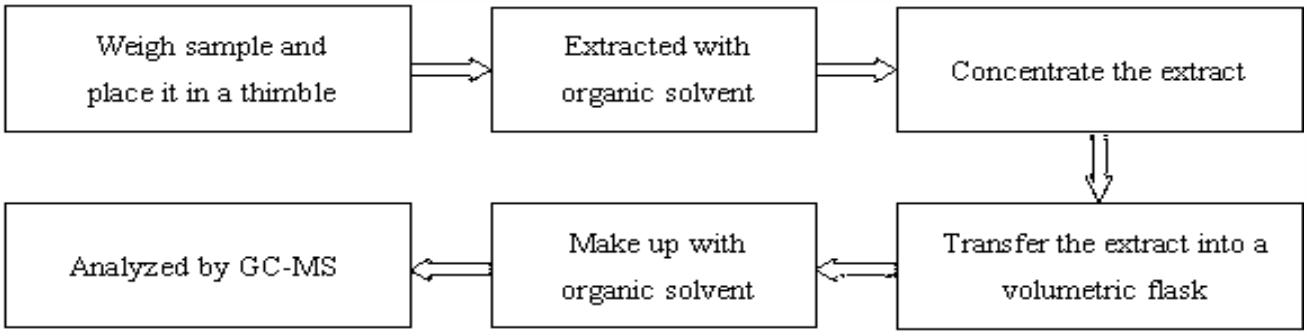


4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)



Test Report

5. Phthalates (DBP, BBP, DEHP, DIBP)



Test Report

Report No. A2190096126101003R1

Photo(s) of the sample(s)

*** End of report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

SINWA LASER TECHNOLOGY CO.,LTD

50.WU KONG 5 TH RD,.WU KU INDUSTRIAL PARK .TAIPEI TAIWAN

The following sample(s) was/were submitted and identified on behalf of the clients as : HALOGEN FREE WHITE INK

SGS Job No. :	CP19-032627 - SZ
Model No. :	I-TPE-01
Client Ref. Info. :	I-PE-01; I-TPE-01;I-TPR-01;I-PE-01; I-PPE-01;I-PP-01;I-TPU-01;I-RU-01
Date of Sample Received :	19 Jun 2019
Testing Period :	19 Jun 2019 - 26 Jun 2019
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

Violet Shi

Violet,Shi
Approved Signatory

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

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN19-117806.002	White liquid

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 62321-7-2:2017 , 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	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	8	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

Test Item(s)	Limit	Unit	MDL	*002*
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)	1,000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1,000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1,000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1,000	mg/kg	50	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25

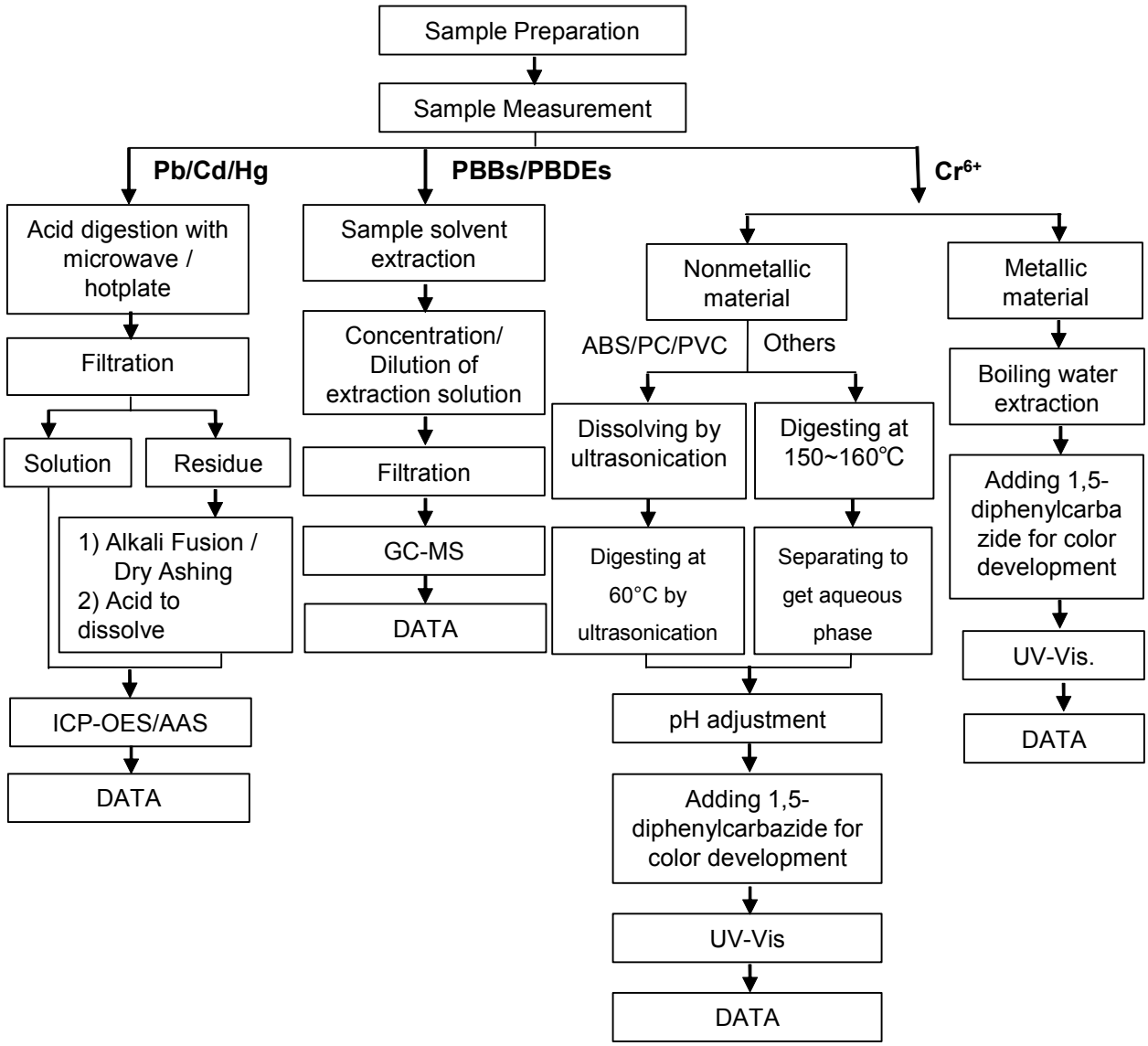
Remark: The result(s) shown is/are of the total weight of dried sample.

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center Chemical Laboratory.
198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

ATTACHMENTS

Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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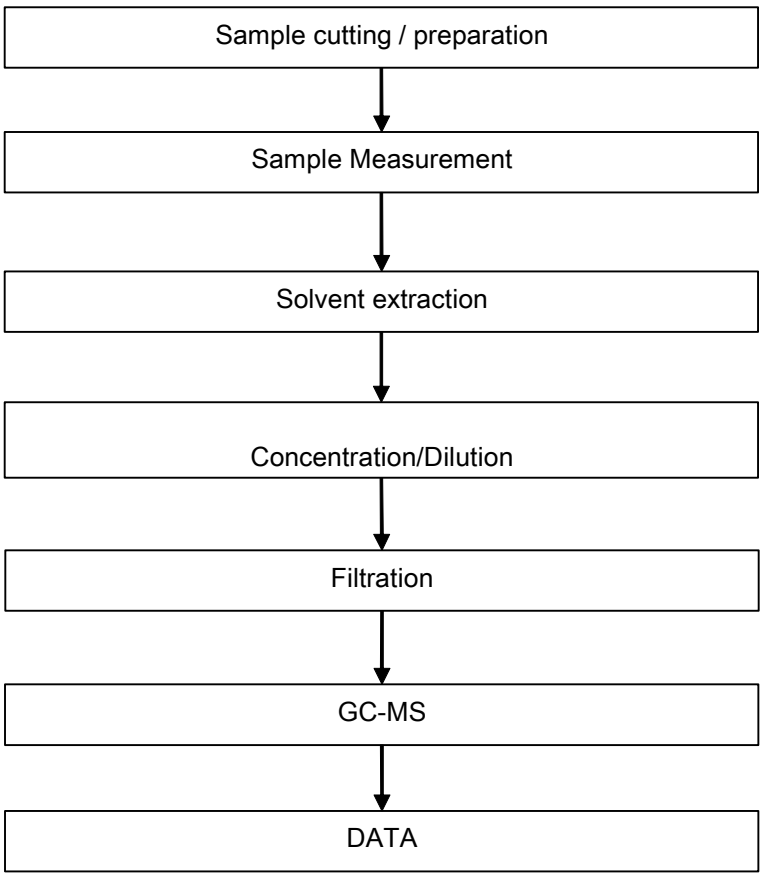
ATTACHMENTS

Phthalates Testing Flow Chart



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Sample photo:

CAN19-117806.002

SGS authenticate the photo on original report only

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Test Report

SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD.

WOER INDUSTRIAL PARK,LANJING NORTH ROAD,LONGTIAN STREET,PINGSHAN DISTRICT,SHENZHEN,GUANGDONG

The following sample(s) was/were submitted and identified on behalf of the clients as : PLEASE SEE REMARK

SGS Job No. :	RP19-021176 - SZ
Date of Sample Received :	16 Oct 2019
Testing Period :	16 Oct 2019 - 21 Oct 2019
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. Shenzhen Branch

Ford Shi
Approved Signatory

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

SGS Bldg, No.4, Jianghao Industrial Park, No.430, Jihua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgsgroup.com.cn
中国·深圳·龙岗区坂田吉华路430号江灏工业园4栋SGS大楼 邮编: 518129 t (86-755) 25328888 f (86-755) 83106190 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SZX19-021996.001	Black tube w/ white printing

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+AMD1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, 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	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1,000	mg/kg	8	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 Item(s)	Limit	Unit	MDL	*001*
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 Phthalate (DIBP)	1000	mg/kg	50	ND

Notes :

(1)The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
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

(2) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

(3) The restriction of DEHP, BBP, DBP and DIBP shall not apply to toys which are already subject to the restriction of DEHP, BBP, DBP and DIBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

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REMARK

RSFR-H HEAT SHRINKABLE TUBINGS (E203950  WOER RSFR-H TUBE 125℃ VW-1 H)

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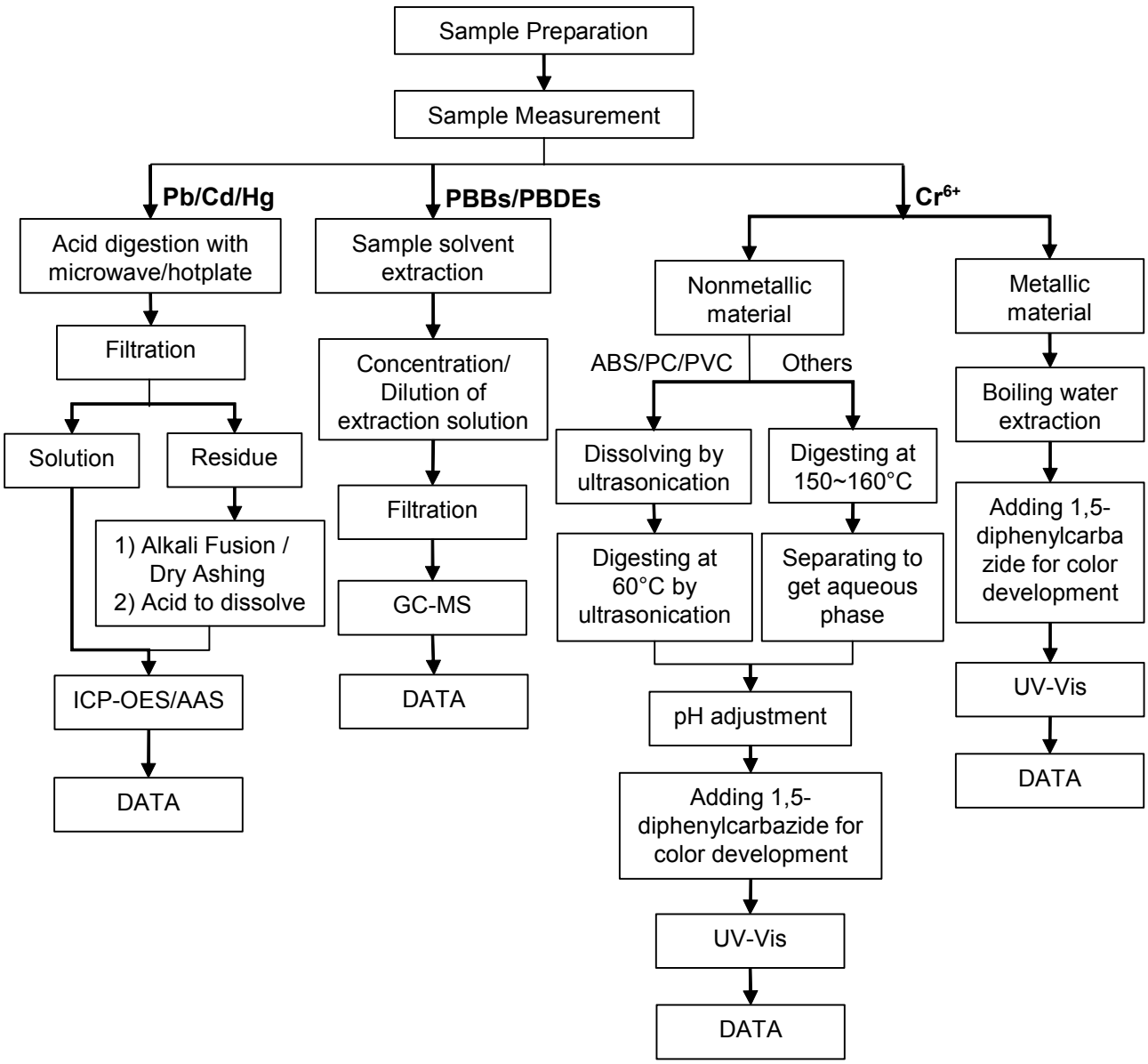
ATTACHMENTS

Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



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SGS Bldg, No.4, Jianghao Industrial Park, No.430, Jihua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgsgroup.com.cn
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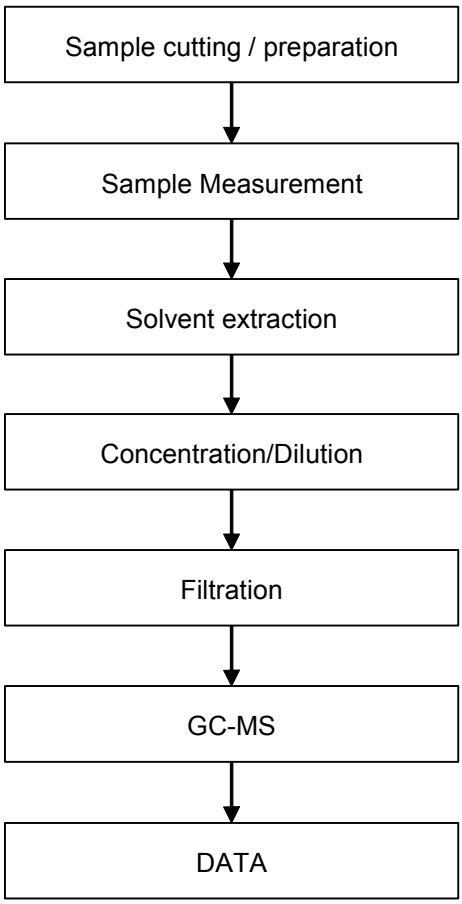
ATTACHMENTS

Phthalates Testing Flow Chart



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Sample photo:

SZX19-021996.001

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Test Report (SVHC)

SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD.
WOER MANSION, NORTH LANJING RD,PINGSHAN, SHENZHEN P.R.CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : PLEASE SEE REMARK

SGS Job No. :	RP19-020756 - SZ
Date of Sample Received :	11 Oct 2019
Testing Period :	11 Oct 2019 - 16 Oct 2019
Test Requested :	As requested by client, SVHC screening is performed according to: (i) Two hundred and one (201) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jul 16, 2019 regarding Regulation (EC) No 1907/2006 concerning the REACH.
Test Results :	Please refer to next page(s).

Summary :

According to the specified scope and evaluation screening, the test results of SVHC are ≤ 0.1% (w/w) in the submitted sample.	PASS

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

Tina

Tina Fan
Approved Signatory

SGS Bldg, No.4, Jianghao Industrial Park, No.430, Jihua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgsgroup.com.cn
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Remark :

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:
   http://echa.europa.eu/web/guest/candidate-list-table
   These lists are under evaluation by ECHA and may subject to change in the future.
2. REACH obligation:
   2.1 Concerning article(s):
   Communication:
   Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.

   Notification:
   In accordance with Regulation (EC) No 1907/2006, any EU producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance in the Candidate List is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance in the Candidate List is present in those articles above a concentration of 0.1% weight by weight (w/w).

   SGS adopts the ruling of the Court of Justice of the European Union on the definition of an article under REACH unless indicated otherwise. Detail explanation is available at the following link:
   http://www.sgs.com/-/media/global/documents/technical-documents/technical-bulletins/sgs-crs-position-statement-on-svhc-in-articles-a4-en-16-06.pdf?la=en

   2.2 Concerning material(s):
   Test results in this report are based on the tested sample. This report refers to testing result of tested sample submitted as homogenous material(s). In case such material is being used to compose an article, the results indicated in this report may not represent SVHC concentration in such article. If this report refers to testing result of composite material group by equal weight proportion, the material in each composite test group may come from more than one article.

   If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

   2.3 Concerning substance and preparation:
   If a SVHC is found over 0.1% (w/w) and/or the specific concentration limit which is set in Regulation (EC) No 1272/2008 and its amendments, client is suggested to prepare a Safety

Data Sheet (SDS) against the SVHC to comply with the supply chain communication obligation under Regulation (EC) No 1907/2006, in which:
- a substance that is classified as hazardous under the CLP Regulation (EC) No 1272/2008.
- a mixture that is classified as hazardous under the CLP Regulation (EC) No 1272/2008, when it contains a substance with concentration equal to, or greater than the classification limit as set in Regulation (EC) No. 1272/2008; or
- a mixture is not classified as hazardous under the CLP Regulation (EC) No 1272/2008, but contains either:
(a) a substance posing human health or environmental hazards in an individual concentration of ≥ 1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or ≥ 0.2 % by volume for gaseous mixtures; or
(b) a substance that is PBT, or vPvB in an individual concentration of ≥ 0.1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures); or
(c) a substance on the SVHC candidate list (for reasons other than those listed above), in an individual concentration of ≥ 0.1 % by weight for non-gaseous mixtures; or
(d) a substance for which there are Europe-wide workplace exposure limits.

3. If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

Test Sample :

Sample Description :

Specimen No.	SGS Sample ID	Description
SN1	SZX19-021500.002	Black tube

Test Method :

SGS In-House method- GZTC CHEM-TOP-092-01, GZTC CHEM-TOP-092-02, Analyzed by ICP-OES, UV-VIS, GC-MS, HPLC-DAD/MS and Colorimetric Method.

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Test Result: (Substances in the Candidate List of SVHC)

Batch	Substance Name	CAS No.	002 Concentration (%)	RL (%)
-	All tested SVHC in candidate list	-	ND	-

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Notes :

1.The table above only shows detected SVHC, and SVHC that below RL are not reported.
Please refer to Appendix for the full list of tested SVHC.
2.RL = Reporting Limit (Test data will be shown if it ≥ RL. RL is not regulatory limit.).ND = Not detected (lower than RL),
ND is denoted on the SVHC substance.
3.* The test result is based on the calculation of selected element(s) and to the worst-case scenario.
** The test result is based on the calculation of selected marker(s) and to the worst-case scenario.
For detail information, please refer to the SGS REACH website :
http://www.sgs.com/en/Consumer-Goods-Retail/Toys-and-Juvenile-Products/Toys/REACH/Management-of-SVHC.aspx
4. RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, chromium (VI), aluminum, zirconium, boron, strontium, zinc, antimony, cadmium, titanium and barium respectively), except molybdenum RL=0.0005%, boron RL=0.0025% (only for Lead bis(tetrafluoroborate)).
5. Calculated concentration of boric compounds are based on the water extractive boron by ICP-OES.
6. Δ CAS No. of diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD): 134237-50-6, 134237-51-7, 134237-52-8.
7. ☆ CAS No. of Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride: 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9; EC No. of those: 247-094-1, 243-072-0, 256-356-4, 260-566-1.
8. § The substance is proposed for the identification as SVHC only where it contains Michler's ketone (CAS Number: 90-94-8) or Michler's base (CAS Number: 101-61-1) ≥0.1% (w/w).

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
I	1	4,4' -Diaminodiphenylmethane(MDA)	101-77-9	0.050
I	2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	0.050
I	3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.050
I	4	Anthracene	120-12-7	0.050
I	5	Benzyl butyl phthalate (BBP)	85-68-7	0.050
I	6	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	0.050
I	7	Bis(tributyltin)oxide (TBTO)	56-35-9	0.050
I	8	Cobalt dichloride*	7646-79-9	0.005
I	9	Diarsenic pentaoxide*	1303-28-2	0.005
I	10	Diarsenic trioxide*	1327-53-3	0.005
I	11	Dibutyl phthalate (DBP)	84-74-2	0.050
I	12	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD)△	25637-99-4, 3194- 55-6	0.050
I	13	Lead hydrogen arsenate*	7784-40-9	0.005
I	14	Sodium dichromate*	7789-12-0, 10588-01-9	0.005
I	15	Triethyl arsenate*	15606-95-8	0.005
II	16	2,4-Dinitrotoluene	121-14-2	0.050
II	17	Acrylamide	79-06-1	0.050
II	18	Anthracene oil**	90640-80-5	0.050
II	19	Anthracene oil, anthracene paste**	90640-81-6	0.050
II	20	Anthracene oil, anthracene paste, anthracene fraction**	91995-15-2	0.050

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
II	21	Anthracene oil, anthracene paste, distn. lights**	91995-17-4	0.050
II	22	Anthracene oil, anthracene-low**	90640-82-7	0.050
II	23	Diisobutyl phthalate	84-69-5	0.050
II	24	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)*	12656-85-8	0.005
II	25	Lead chromate*	7758-97-6	0.005
II	26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	0.005
II	27	Pitch, coal tar, high temp.**	65996-93-2	0.050
II	28	Tris(2-chloroethyl)phosphate	115-96-8	0.050
III	29	Ammonium dichromate*	7789-09-5	0.005
III	30	Boric acid*	10043-35-3, 11113-50-1	0.005
III	31	Disodium tetraborate, anhydrous*	1303-96-4, 1330-43-4, 12179-04-3	0.005
III	32	Potassium chromate*	7789-00-6	0.005
III	33	Potassium dichromate*	7778-50-9	0.005
III	34	Sodium chromate*	7775-11-3	0.005
III	35	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	0.005
III	36	Trichloroethylene	79-01-6	0.050
IV	37	2-Ethoxyethanol	110-80-5	0.050
IV	38	2-Methoxyethanol	109-86-4	0.050
IV	39	Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid*	7738-94-5,-13530-68-2	0.005

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
IV	40	Chromium trioxide*	1333-82-0	0.005
IV	41	Cobalt(II) carbonate*	513-79-1	0.005
IV	42	Cobalt(II) diacetate*	71-48-7	0.005
IV	43	Cobalt(II) dinitrate*	10141-05-6	0.005
IV	44	Cobalt(II) sulphate*	10124-43-3	0.005
V	45	1,2,3-trichloropropane	96-18-4	0.050
V	46	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	0.050
V	47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	0.050
V	48	1-methyl-2-pyrrolidone	872-50-4	0.050
V	49	2-ethoxyethyl acetate	111-15-9	0.050
V	50	Hydrazine	7803-57-8, 302-01-2	0.050
V	51	Strontium chromate*	7789-06-2	0.005
VI	52	1,2-Dichloroethane	107-06-2	0.050
VI	53	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	0.050
VI	54	2-Methoxyaniline; o-Anisidine	90-04-0	0.050
VI	55	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	0.050
VI	56	Aluminosilicate Refractory Ceramic Fibres *	650-017-00-8 (Index no.)	0.005
VI	57	Arsenic acid*	7778-39-4	0.005
VI	58	Bis(2-methoxyethyl) ether	111-96-6	0.050
VI	59	Bis(2-methoxyethyl) phthalate	117-82-8	0.050

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VI	60	Calcium arsenate*	7778-44-1	0.005
VI	61	Dichromium tris(chromate) *	24613-89-6	0.005
VI	62	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	0.050
VI	63	Lead diazide, Lead azide*	13424-46-9	0.005
VI	64	Lead dipicrate*	6477-64-1	0.005
VI	65	Lead styphnate*	15245-44-0	0.005
VI	66	N,N-dimethylacetamide	127-19-5	0.050
VI	67	Pentazinc chromate octahydroxide*	49663-84-5	0.005
VI	68	Phenolphthalein	77-09-8	0.050
VI	69	Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9	0.005
VI	70	Trilead diarsenate*	3687-31-8	0.005
VI	71	Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	0.005
VII	72	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)§	2580-56-5	0.050
VII	73	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)§	548-62-9	0.050
VII	74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	0.050
VII	75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	0.050
VII	76	4,4'-bis(dimethylamino) benzophenone (Michler's Ketone)	90-94-8	0.050
VII	77	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol§	561-41-1	0.050
VII	78	Diboron trioxide*	1303-86-2	0.005

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VII	79	Formamide	75-12-7	0.050
VII	80	Lead(II) bis(methanesulfonate)*	17570-76-2	0.005
VII	81	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	0.050
VII	82	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	0.050
VII	83	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) §	6786-83-0	0.050
VII	84	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6	0.050
VIII	85	[Phthalato(2-)]dioxotrilead*	69011-06-9	0.005
VIII	86	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.050
VIII	87	1,2-Diethoxyethane	629-14-1	0.050
VIII	88	1-Bromopropane	106-94-5	0.050
VIII	89	3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.050
VIII	90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	0.050
VIII	91	4,4'-Methylenedi-o-toluidine	838-88-0	0.050
VIII	92	4,4'-Oxydianiline and its salts	101-80-4	0.050
VIII	93	4-Aminoazobenzene	60-09-3	0.050
VIII	94	4-Methyl-m-phenylenediamine	95-80-7	0.050
VIII	95	4-Nonylphenol, branched and linear	-	0.050
VIII	96	6-Methoxy-m-toluidine	120-71-8	0.050
VIII	97	Acetic acid, lead salt, basic*	51404-69-4	0.005

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	98	Biphenyl-4-ylamine	92-67-1	0.050
VIII	99	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	0.050
VIII	100	Cyclohexane-1,2-dicarboxylic anhydride, cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7, 13149-00-3, 14166-21-3	0.050
VIII	101	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	0.050
VIII	102	Dibutyltin dichloride (DBTC)	683-18-1	0.050
VIII	103	Diethyl sulphate	64-67-5	0.050
VIII	104	Diisopentylphthalate	605-50-5	0.050
VIII	105	Dimethyl sulphate	77-78-1	0.050
VIII	106	Dinoseb	88-85-7	0.050
VIII	107	Dioxobis(stearato)trilead*	12578-12-0	0.005
VIII	108	Fatty acids, C16-18, lead salts*	91031-62-8	0.005
VIII	109	Furan	110-00-9	0.050
VIII	110	Henicosafluoroundecanoic acid	2058-94-8	0.050
VIII	111	Heptacosafluorotetradecanoic acid	376-06-7	0.050
VIII	112	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic anhydride	☆	0.050
VIII	113	Lead bis(tetrafluoroborate)*	13814-96-5	0.005
VIII	114	Lead cyanamidate*	20837-86-9	0.005
VIII	115	Lead dinitrate*	10099-74-8	0.005
VIII	116	Lead monoxide*	1317-36-8	0.005

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	117	Lead oxide sulfate*	12036-76-9	0.005
VIII	118	Lead tetroxide (orange lead)*	1314-41-6	0.005
VIII	119	Lead titanium trioxide*	12060-00-3	0.005
VIII	120	Lead titanium zirconium oxide*	12626-81-2	0.005
VIII	121	Methoxyacetic acid	625-45-6	0.050
VIII	122	Methyloxirane (Propylene oxide)	75-56-9	0.050
VIII	123	N,N-dimethylformamide	68-12-2	0.050
VIII	124	N-Methylacetamide	79-16-3	0.050
VIII	125	N-Pentyl-isopentylphthalate	776297-69-9	0.050
VIII	126	o-Aminoazotoluene	97-56-3	0.050
VIII	127	o-Toluidine	95-53-4	0.050
VIII	128	Pentacosafluorotridecanoic acid	72629-94-8	0.050
VIII	129	Pentalead tetraoxide sulphate*	12065-90-6	0.005
VIII	130	Pyrochlore, antimony lead yellow*	8012-00-8	0.005
VIII	131	Silicic acid, barium salt, lead-doped*	68784-75-8	0.005
VIII	132	Silicic acid, lead salt*	11120-22-2	0.005
VIII	133	Sulfurous acid, lead salt, dibasic*	62229-08-7	0.005
VIII	134	Tetraethyllead*	78-00-2	0.005
VIII	135	Tetralead trioxide sulphate*	12202-17-4	0.005
VIII	136	Tricosafluorododecanoic acid	307-55-1	0.050
VIII	137	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	0.005

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	138	Trilead dioxide phosphonate*	12141-20-7	0.005
IX	139	4-Nonylphenol, branched and linear, ethoxylated	-	0.050
IX	140	Ammonium pentadecafluorooctanoate (APFO)**	3825-26-1	0.050
IX	141	Cadmium oxide*	1306-19-0	0.005
IX	142	Cadmium*	7440-43-9	0.005
IX	143	Dipentyl phthalate (DPP)	131-18-0	0.050
IX	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.050
X	145	Cadmium sulphide*	1306-23-6	0.005
X	146	Dihexyl phthalate	84-75-3	0.050
X	147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	0.050
X	148	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	0.050
X	149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	0.050
X	150	Lead di(acetate)*	301-04-2	0.005
X	151	Trixylyl phosphate	25155-23-1	0.050
XI	152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	0.050
XI	153	Cadmium chloride*	10108-64-2	0.005
XI	154	Sodium perborate; perboric acid, sodium salt*	-	0.005
XI	155	Sodium peroxometaborate*	7632-04-4	0.005

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
XII	156	2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.050
XII	157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.050
XII	158	2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate; DOTE	15571-58-1	0.050
XII	159	Cadmium fluoride*	7790-79-6	0.005
XII	160	Cadmium sulphate*	10124-36-4, 31119-53-6	0.005
XII	161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate & 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE & MOTE)	-	0.050
XIII	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5, 68648-93-1	0.050
XIII	163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	-	0.050
XIV	164	1,3-propanesultone	1120-71-4	0.050
XIV	165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	0.050
XIV	166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	0.050
XIV	167	Nitrobenzene	98-95-3	0.050
XIV	168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1, 21049-39-8, 4149-60-4	0.050

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
XV	169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	0.050
XVI	170	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	0.050
XVI	171	4-Heptylphenol, branched and linear	-	0.050
XVI	172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3108-42-7, 335-76-2, 3830-45-3	0.050
XVI	173	p-(1,1-dimethylpropyl)phenol	80-46-6	0.050
XVII	174	Perfluorohexane-1-sulphonic acid and its salts	-	0.050
XVIII	175	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	0.050
XVIII	176	Benz[a]anthracene	56-55-3, 1718-53-2	0.050
XVIII	177	Cadmium nitrate*	10022-68-1, 10325-94-7	0.005
XVIII	178	Cadmium carbonate*	513-78-0	0.005
XVIII	179	Cadmium hydroxide*	21041-95-2	0.005
XVIII	180	Chrysene	218-01-9, 1719-03-5	0.050
XVIII	181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]	-	0.050
XIX	182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride) (TMA)	552-30-7	0.050
XIX	183	Benzo[ghi]perylene	191-24-2	0.050
XIX	184	Decamethylcyclopentasiloxane (D5)	541-02-6	0.050
XIX	185	Dicyclohexyl phthalate (DCHP)	84-61-7	0.050

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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
XIX	186	Disodium octaborate*	12008-41-2	0.005
XIX	187	Dodecamethylcyclohexasiloxane (D6)	540-97-6	0.050
XIX	188	Ethylenediamine (EDA)	107-15-3	0.050
XIX	189	Lead*	7439-92-1	0.005
XIX	190	Octamethylcyclotetrasiloxane (D4)	556-67-2	0.050
XIX	191	Terphenyl, hydrogenated	61788-32-7	0.050
XX	192	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor)	15087-24-8	0.050
XX	193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	0.050
XX	194	Benzo[k]fluoranthene	207-08-9	0.050
XX	195	Fluoranthene	206-44-0, 93951-69-0	0.050
XX	196	Phenanthrene	85-01-8	0.050
XX	197	Pyrene	129-00-0, 1718-52-1	0.050
XXI	198	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	-	0.050
XXI	199	2-methoxyethyl acetate	110-49-6	0.050
XXI	200	4-tert-butylphenol (PTBP)	98-54-4	0.050
XXI	201	Tris(4-nonylphenyl,branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	-	0.050

REMARK

RSFR-H HEAT SHRINKABLE TUBINGS(E203950  WOER RSFR-H TUBE 125℃ VW-1 H)

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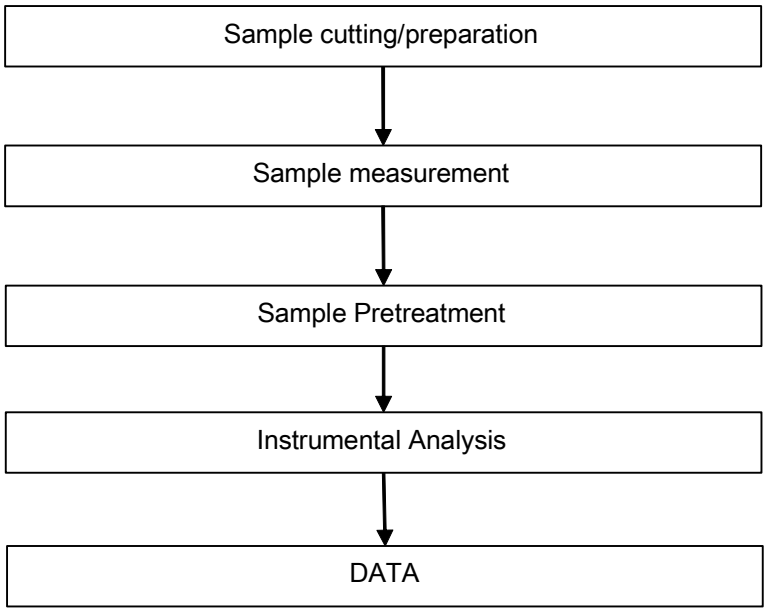
ATTACHMENTS

SVHC Testing Flow Chart



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Sample photo:

SZXEC1902150003

SZX19-021500.002

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*** End of Report ***

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不使用限用物質聲明書
Non-use of restricted substances statement

請填寫相關資訊

Please fill in the relevant information：

公司名稱 Company name：飛偉科技有限公司

公司負責人 Company Responsible Person：王俊偉

立書人 Declarant：王俊偉

立書人職稱 Declarant's Title：負責人

本聲明書生效日期 Effective Date of this Declaration：2020/02/26

(公司章 Company Stamp)

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Please Select the Scope of this Declaration：

■提供給研揚的全部產品 All Products provided to AAEON

□研揚料號 AAEON Part Number：

_____

□原廠料號 Manufacturer Part Number：

_____

(負責人章 Responsible Person Chop)

_____ **(填寫公司名稱) 響應全球綠色環保法規或其他法律，保證如下事項：**

_____ **(Fill in Company name) Response to global green environmental protection regulations or other laws, guarantee the following matters:**

一、產品符合歐盟 RoHS (2011/65/EU)* 規範。

The product complies with EU RoHS (2011/65/EU) norms.

i. 歐盟於 2015 年 6 月 4 日公布指令 (EU) 2015/863，將四項可塑劑 DEHP, BBP, DBP and DIBP 增加至 Annex II 清單中，限值仍為 1000ppm，從 2019 年 7 月 22 日起需符合此要求，作為供應商，如果有包含上述物質，務必主動通知研揚。

EU announce with (EU)2015/863 that DEHP, BBP, DBP and DIBP are primarily used to soften plastics, that will be restricted from **22 July 2019** for all electrical and electronic equipment. As suppliers, if your components content with above substances, please inform to AAEON related people.

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ii. 當作為包材類的材料，也須符合歐盟包裝指令(94/62/EC) 與修訂指令(2013/2/EU)
When used as package material, it also needs to comply with EU package directive (94/62/EC) and amendment (2013/2/EU)
Note: Pb+Cd+Hg+Cr^{6+} <100 ppm

iii. 若為電池零件，也須符合電池指令 2006/66/EC 與修訂指令 2013/56/EU
For battery components, it also needs to comply with EU battery directive (2006/66/EC) and amendment (2013/56/EU)
Note: Cd<20ppm; Hg <5ppm

二、產品符合衝突金屬(Conflict Metal)規範，並確認銷售產品若有含錫、鉭、鎢、金這四種礦產，來源並非來自剛果民主共和國及其周邊國家剛果、烏干達、蘇 丹、坦桑尼亞、盧旺達、安哥拉、贊比亞、布隆迪。
The product complies with the conflict metal norms, and confirm that your company selling products contain tin、tantalum、tungsten、gold four mineral, those sources are not come from Democratic Republic of the Congo and its neighboring countries of Congo、Uganda、San、Tanzania、Rwanda、Angola, Zambia, Burundi.

三、產品符合歐盟最新REACH (EC 1907/2006) 規範，
高關注物質(SVHC)，不超過 0.1%上限，以重量計算。
備註：請參照歐盟化學總署(ECHA)網站，最新的高關注物質清單。
This product complies with latest EU REACH (EC 1907/2006) norms.
The SVHC, are not over 0.1% threshold by weight.
Note: Please check ECHA website for latest SVHC list: https://echa.europa.eu/candidate-list-table

立書人提供給研揚的所有文件（含測試報告、聲明書、調查表等文件)，均正確屬實並且完整。
All documents (including test reports, declarations, survey forms, etc.) provided by Declarant to AAEON shall be correct, true and complete.

如有違背此保證聲明書的規定，飛偉科技有限公司 (填寫公司名稱) 將承擔相關法律責任並賠償研揚所受損害。
If violates any provision of this Declaration, _____ (Fill in Company name) shall take legal responsibilities and compensate AAEON for damages and losses caused by this violation.

5F, No. 135, Lane 235, PaoChiao Rd., Hsin-Tien Dist, New Taipei City, 231, Taiwan, R.O.C.