客戶名稱 CUSTOMER：和暢科技

Documnet No.: ENS000178640
Approval Sheet Rev.: A1
Spec. Rev. P1

承　認　書

APPROVAL SHEET

產品品名/Product Model No.：**NF-C-F9-R0-179**

客戶料號/Customer No.：**KXNFC4P111PA1**

案名/Model Name: **HC-1570**

發行日期/ Issue Date：**2023/7/6**

承認日期/ Approved Date：

Approved by customer: (signing or stamping here)

佳邦科技股份有限公司
INPAQ TECHNOLOGY CO., LTD.

■ 350 苗栗縣竹南鎮公義里11鄰科義街11號
電話：037-585-555
傳真：037-585-511
No. 11, Ke-Yi St., Chunan, Miaoli 350, Taiwan, R.O.C.
Tel.：+886-37-585-555
Fax：+886-37-585-511

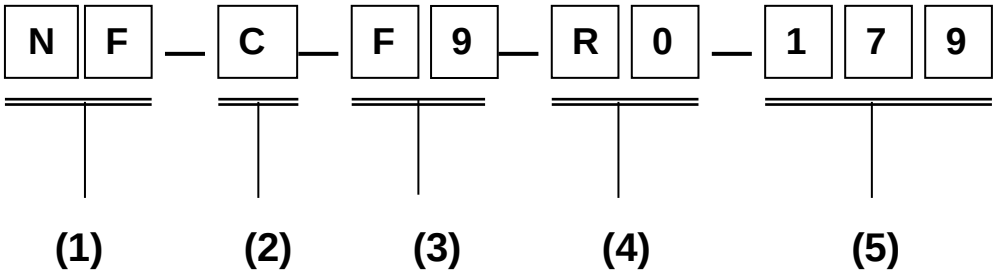
□ 428 台中市大雅區科雅路27號4樓
電話：04-2560-6555
傳真：04-2560-5151
4F,No.27,Keya Road,Daya Dist.,Taichung City 428, Taiwan,R.O.C.
Tel.：+886-4-25606555
Fax：+886-4-25605151

NF-C-F9-R0-179 Specification

1. Applications：

Near Filed Communication (NFC)、RFID

2. Explanation of Part Number：



(1) Product type：Near Field Communication

(2) Material：FPCB+ Ferrite

(3) Substrate：F9-Ferrite Type

(4) Frequency：R0-13.56MHz (RFID, HF Band)

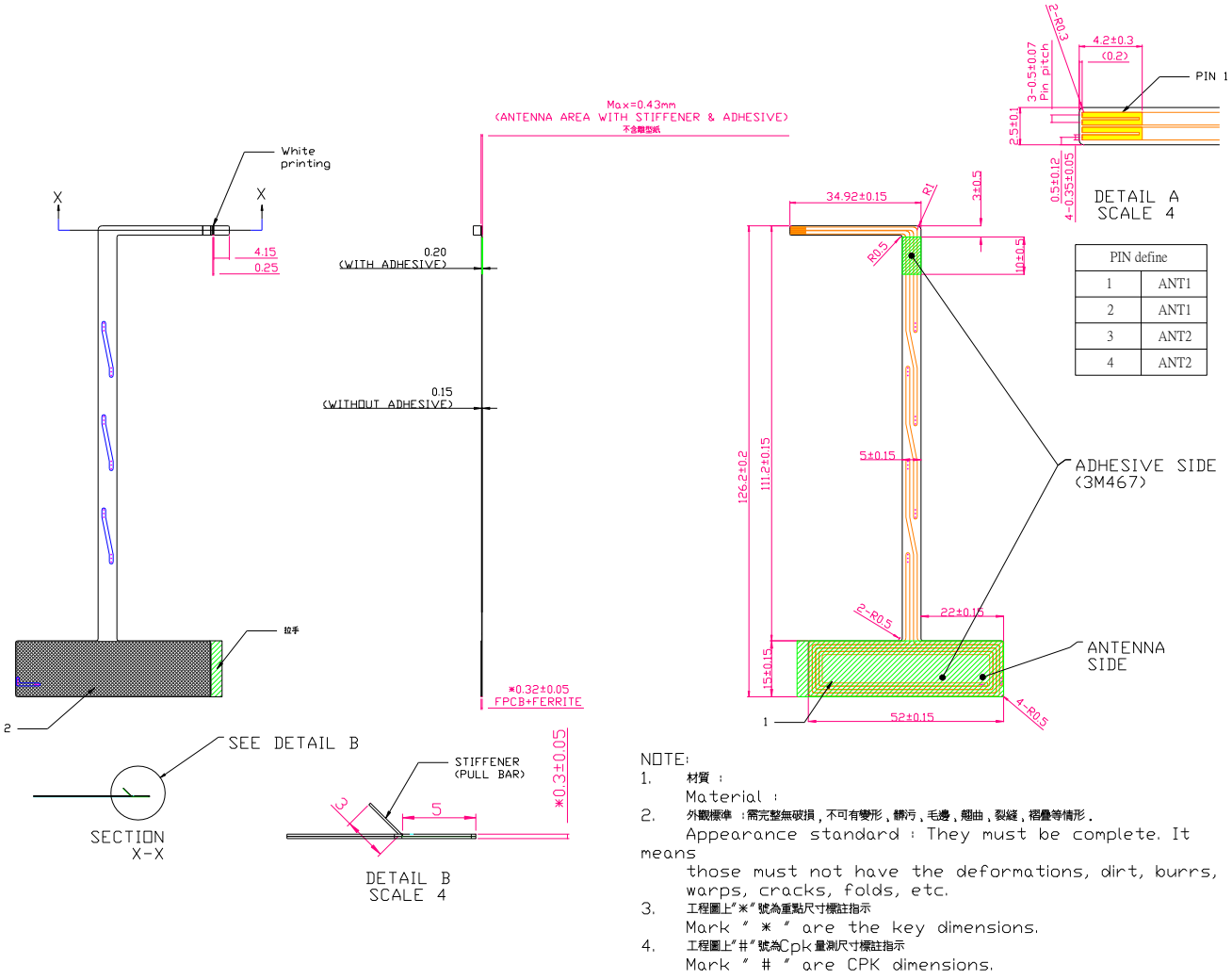
(5) Suffix：179

3. Electrical Specification：

Electrical Specification		
Center Frequency (MHz)	13.56	
Frequency Range (MHz)	12 ~15	
Inductance (uH)	1.4±0.07	(@100kHz)
Resistance(mΩ)	≤830	(DC)
Dimension (mm)	52.0x126.2x0.43 (L x W x H)	

4. Dimensions：

Unit：mm



PIN define	
1	ANT1
2	ANT1
3	ANT2
4	ANT2

NOTE:
1. 材質 ：
   Material ：
2. 外觀標準 ：需完整無破損，不可有變形、髒污、毛邊、翹曲、裂縫、摺疊等情形.
   Appearance standard ： They must be complete. It means
   those must not have the deformations, dirt, burrs, warps, cracks, folds, etc.
3. 工程圖上"*"號為重點尺寸標註指示
   Mark " * " are the key dimensions.
4. 工程圖上"#"號為Cpk量測尺寸標註指示
   Mark " # " are CPK dimensions.

Drawing Rev.P1

ITEM	DESCRIPTION	MATERIAL SPECIFICATION	QUANTITY	UNIT
1	FPCB (with 3M467)	L126.2xW52xT0.35mm	1	PCS
2	Ferrite	L51.7xW14.7xT0.12mm	1	PCS

UNLESS OTHER SPECIFIED TOLERANCES ON：
X＝± X.X＝± X.XX＝
ANGLES＝± HOLE DIA＝±

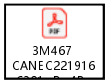
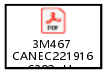
INPAQ TECHNOLOGY CO., LTD.

SCALE：N/A	UNIT：mm
DRAWN BY：王聖元	CHECKED BY：鄭榮謀
DESIGNED BY：鍾政全	APPROVED BY：許博凱

TITLE：NF-C-F9-R0-179 specifications	DOCUMENT NO.	ENS000178640	SPEC REV. P1

MATERIAL Composition

Product Name：NF-C-F9-R0-179

Composition part 構成部件	Material Name. 部件材質名	3'rd Test No. Report	3'rd Test Date	SGS	MSDS
FPCB	3M467	CANEC2219166301	2022/9/4		
		CANEC2219166302	2022/9/4		
	热固纯胶	A2230108006101007E	2023/3/21		
	补强	CANEC2215360501	20233/7/22		
	化金	A222042831210101ER1	2022/10/12		
	无胶双面压延铜	A2220299069101001E	2022/7/18		
	黑色覆盖膜	SZXEC2300192709 SZXEC2300192711	2023/2/15	 	
铁氧体	F9	IQCT32HC1112587D1	2022/11/15		

Test Report

Client Name : 3M MATERIAL TECHNOLOGY (GUANGZHOU) CO.,LTD.

Client Address : NO.9,NANXIANG 2 ROAD,SCIENCE CITY GUANGZHOU HIGH TECH INDUSTRY DEVELOPMENT DISTRICT
CHINA

Sample Name : 467MP

Model No. : 467MP

Client Ref. Info. : 467MPF, 468MP, 467MPR, 468MPF, 468MPR, 7952MP, 7955MP, 7962MP, 7965MP, 9172MP, 9172PT, 9185MP, 9188, 9667MP, 9668MP, 9676, 7953MP, 7945MP, 7956MP, 7993MP, 7995MP, 7997MP, 7957MP, 7959MP, 7961MP, 9045MP, 9056MP, 9057MP, 9059MP, 9061MP, 9492MP, 9492MPF, 9495MP, 9495MPF, 9495FL, CDB610

The above sample(s) and information were provided by the client.

SGS Job No. : CP22-049846 - GZ

Date of Sample Received : 07 Sep 2022

Testing Period : 07 Sep 2022 - 14 Sep 2022

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

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

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

Result Summary :

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	PASS

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

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4A33B974

Dongyu Xie
Approved Signatory

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 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 sgs.china@sgs.com

Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN22-191663.001	Colorless transparent double-side adhesive sheet

Remarks :

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

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

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	001
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

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

Notes :

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

(2) IEC 62321 series is equivalent to EN 62321 series

(3) 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.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.

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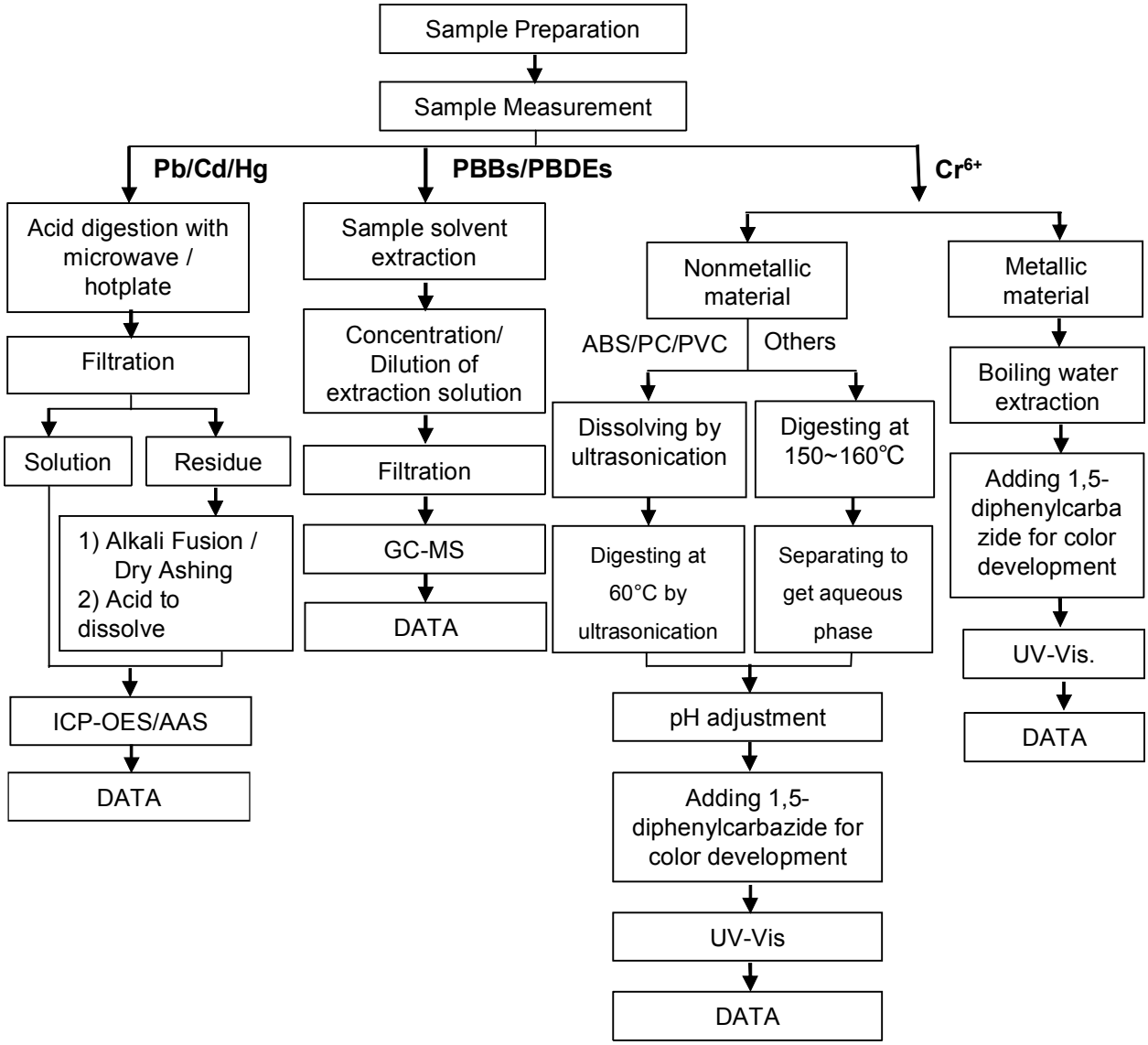
ATTACHMENTS

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).



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 www.sgsgroup.com.cn
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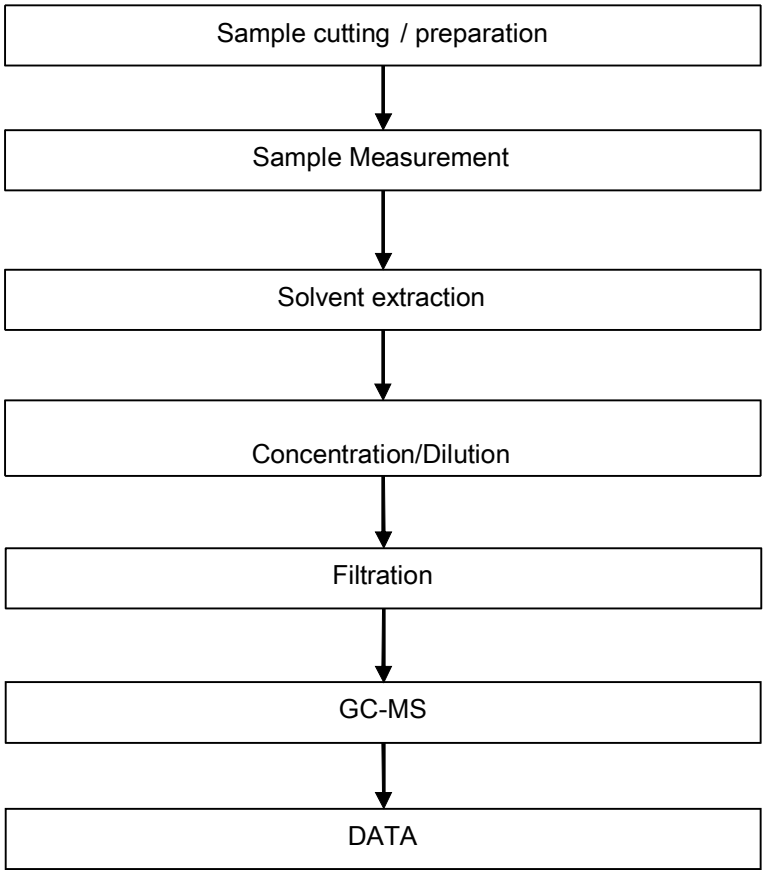
ATTACHMENTS

Phthalates Testing Flow Chart



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 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 sgs.china@sgs.com

Sample photo:

CAN22-191663.001

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 www.sgsgroup.com.cn
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Test Report

No. CANEC2219166302 Date: 14 Sep 2022 Page 1 of 4

Client Name : 3M MATERIAL TECHNOLOGY (GUANGZHOU) CO.,LTD.

Client Address : NO.9,NANXIANG 2 ROAD,SCIENCE CITY GUANGZHOU HIGH TECH INDUSTRY DEVELOPMENT DISTRICT
CHINA

Sample Name : 467MP

Model No. : 467MP

Client Ref. Info. : 467MPF, 468MP, 467MPR, 468MPF, 468MPR, 7952MP, 7955MP, 7962MP, 7965MP, 9172MP, 9172PT, 9185MP, 9188, 9667MP, 9668MP, 9676, 7953MP, 7945MP, 7956MP, 7993MP, 7995MP, 7997MP, 7957MP, 7959MP, 7961MP, 9045MP, 9056MP, 9057MP, 9059MP, 9061MP, 9492MP, 9492MPF, 9495MP, 9495MPF, 9495FL, CDB610

The above sample(s) and information were provided by the client.

SGS Job No. : CP22-049846 - GZ

Date of Sample Received : 07 Sep 2022

Testing Period : 07 Sep 2022 - 14 Sep 2022

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

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

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

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

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C0C74551

Dongyu Xie
Approved Signatory

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 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 sgs.china@sgs.com

Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN22-191663.001	Colorless transparent double-side adhesive sheet

Remarks :

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

Halogen

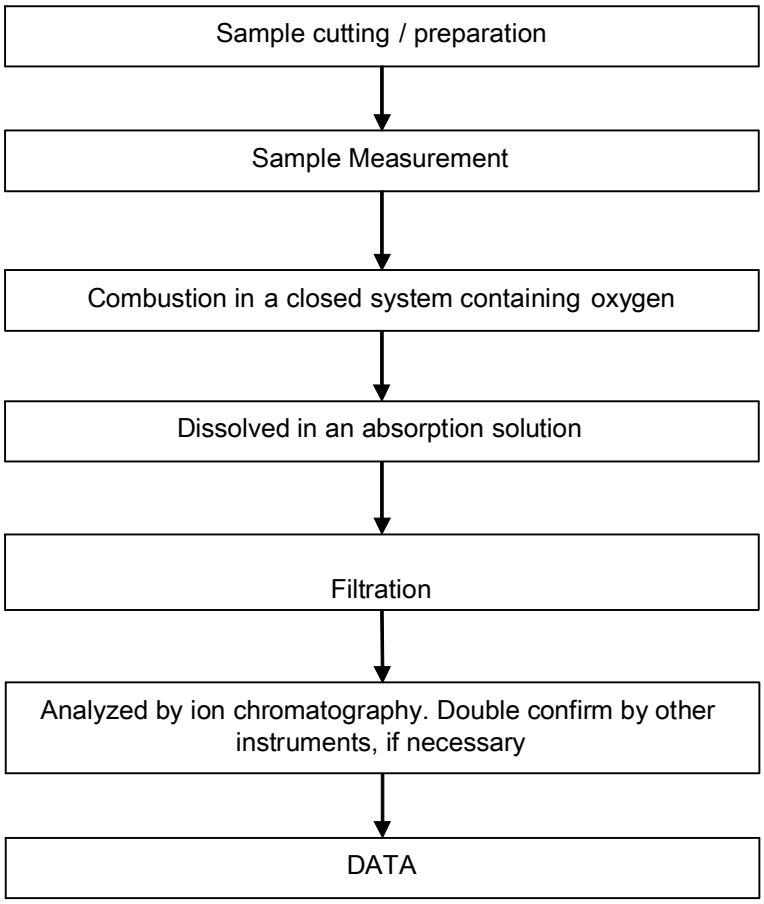
Test Method : With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit	MDL	001
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	150
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.

ATTACHMENTS

Halogen Testing Flow Chart



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Sample photo:

CAN22-191663.001

SGS authenticate the photo on original report only

*** End of Report ***

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检测报告
Test Report

报告编号 A2230108006101007E
Report No. A2230108006101007E

报告抬头公司名称 惠州市富邦电子科技有限公司
Company Name shown on Report FUBANG ELCETRONIC TECHNOLGY CO.,LTD
地 址 惠州市惠城区水口办事处联合37区8号厂房
Address NO.8,JOINT DISTRICT 37,SHUIKOU TOWN,HUICHENG DISTRICT.HUIZHOU CITY,GUANGDONG PROVINCE

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称	纯胶膜
Sample Name	Bonding Sheet
样品接收日期	2023.03.15
Sample Received Date	Mar. 15, 2023
样品检测日期	2023.03.15-2023.03.21
Testing Period	Mar. 15, 2023 to Mar. 21, 2023

检测要求
根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP，BBP，DEHP，DIBP)，氟(F)，氯(Cl)，溴(Br)，碘(I)进行测试。
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), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I) in the submitted sample(s).

检测依据/检测结果 请参见下页。
Test Method/Test Result(s) Please refer to the following page(s).

批 准
Approved by 郑晴涛
郑晴涛
技术经理 Technical Manager

日 期
Date 2023.03.21

No. R179751950

检测检测认证集团股份有限公司
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
广东省深圳市宝安区新安街道兴东社区华测检测大楼

检测报告
Test Report

****

结论 Conclusion

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

****

符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。
PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

检测报告
Test Report

检测依据 Test Method

测试项目 Test Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017和/或IEC 62321-5:2013测试总铬含量 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
氟 Fluorine (F)	参考EN 14582:2016 Refer to EN 14582:2016	IC
氯 Chlorine (Cl)	参考EN 14582:2016 Refer to EN 14582:2016	IC
溴 Bromine (Br)	参考EN 14582:2016 Refer to EN 14582:2016	IC
碘 Iodine (I)	参考EN 14582:2016 Refer to EN 14582:2016	IC

检测报告
Test Report

报告编号 A2230108006101007E
Report No. A2230108006101007E

检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	007		
铅 Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	007		
多溴联苯 Polybrominated Biphenyls (PBBs)			
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	007		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg	

检测报告
Test Report

报告编号 A2230108006101007E
Report No. A2230108006101007E

检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	007		
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	007	
氟 Fluorine (F)	N.D.	10 mg/kg
氯 Chlorine (Cl)	N.D.	10 mg/kg
溴 Bromine (Br)	N.D.	10 mg/kg
碘 Iodine (I)	N.D.	10 mg/kg

样品/部位描述Sample/Part Description

序号 No.	CTI样品ID CTI Sample ID	描述 Description
1	007	浅黄色薄膜 Light yellow film

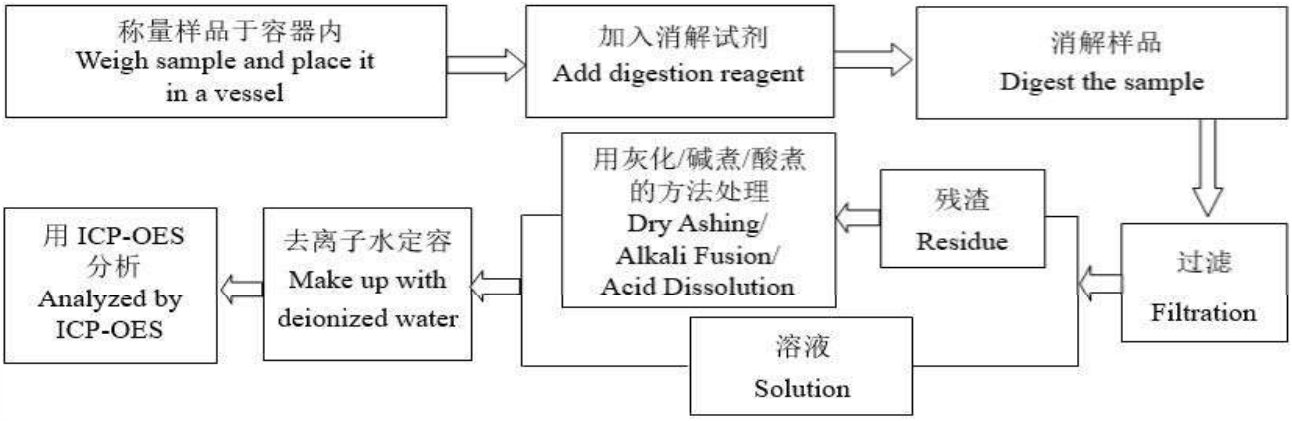
备注: **对于检测铅，镉，汞之样品已消解完全。**
-N.D. = 未检出（小于方法检出限）
-mg/kg = ppm = 百万分之一
-1000 mg/kg = 0.1%

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%

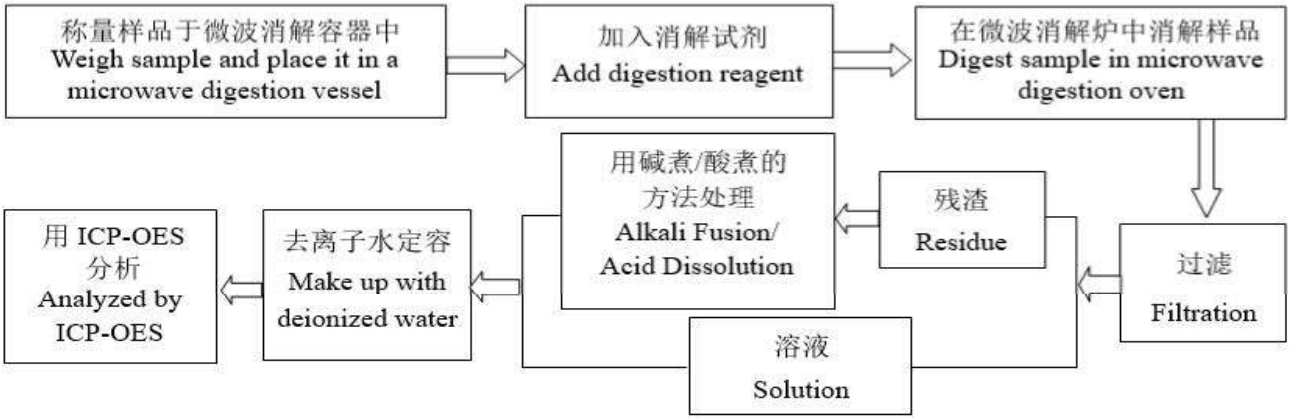
检测报告
Test Report

检测流程 Test Process

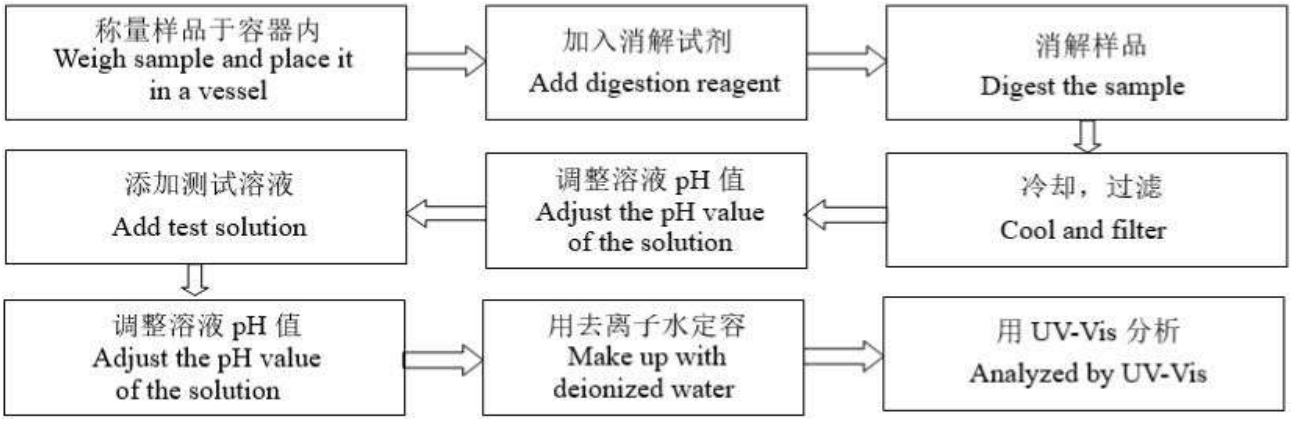
1. **铅(Pb)，镉(Cd)，铬(Cr)**
   Lead (Pb), Cadmium (Cd), Chromium (Cr)



2. **汞(Hg)**
   Mercury (Hg)

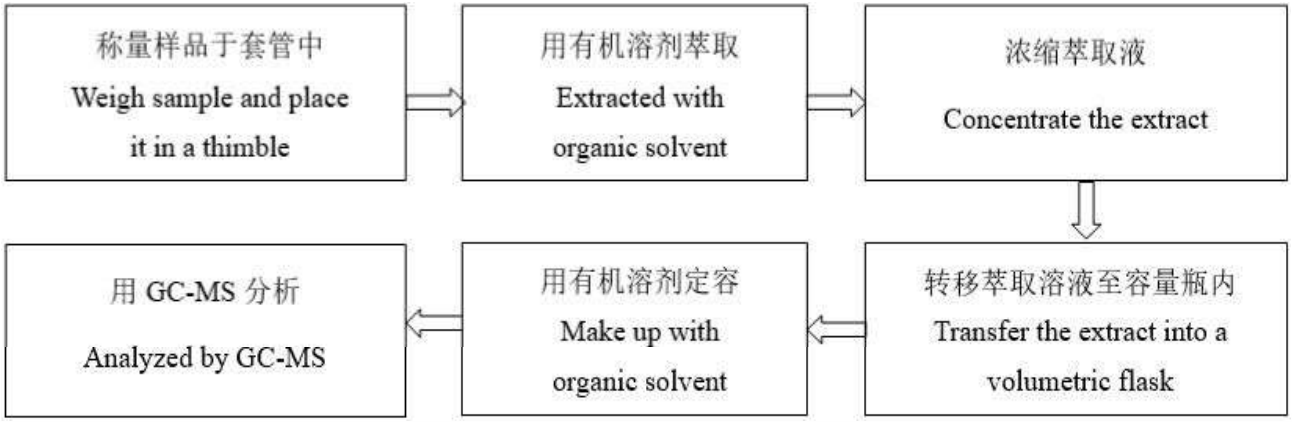


3. **六价铬(Cr(VI))**
   Hexavalent Chromium (Cr(VI))



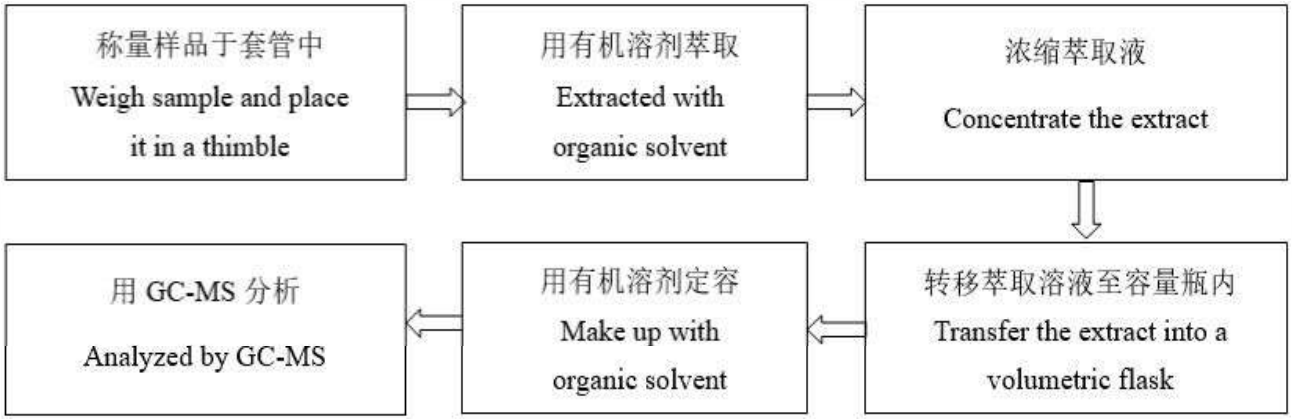
4. 多溴联苯(PBBs)， 多溴二苯醚(PBDEs)

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



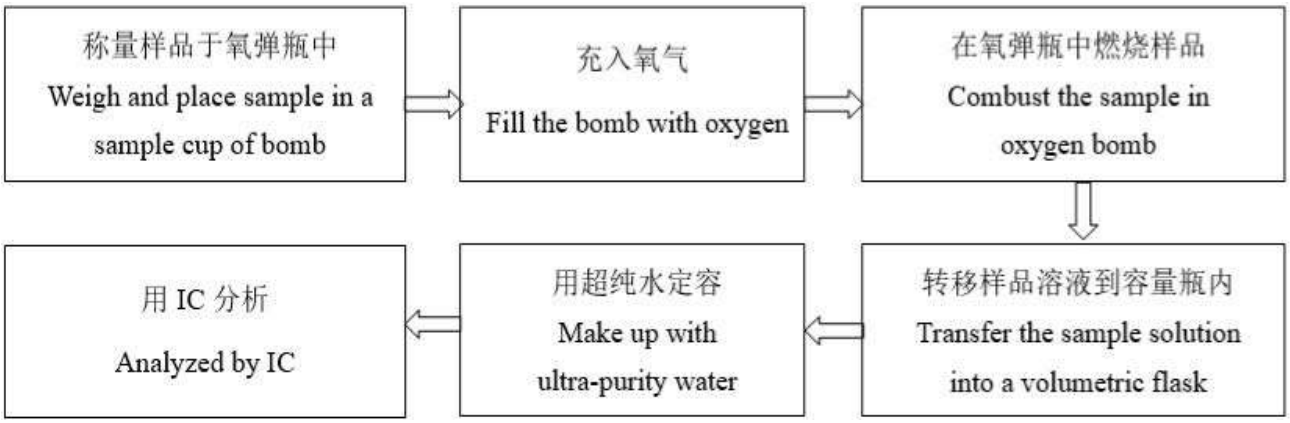
5. 邻苯二甲酸酯(DBP， BBP， DEHP， DIBP)

Phthalates (DBP, BBP, DEHP, DIBP)



6. 氟(F)， 氯(Cl)， 溴(Br)， 碘(I)

Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



检测报告
Test Report

样品图片
Photo(s) of the sample(s)

声明Statement：

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效；
   This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI未核实其真实性；
   The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn’t verified;
3. 本报告检测结果仅对受测样品负责；
   The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 未经CTI书面同意，不得部分复制本报告；
   Without written approval of CTI, this report can’t be reproduced except in full;
5. 如检测报告中的英文内容与中文内容有差异，以中文为准。
   In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

报告结束

*** End of report ***

Test Report

Client Name : BAOYING COUNTY JIANGGONG INSULATION MATERIAL CO, LTD.

Client Address : NO.4 LUFAN ROAD, LIUBAO TOWN, BAOYING COUNTY, JIANGSU PROVINCE, PRC 225821

Sample Name : POLYIMIDE FILM

The above sample(s) and information were provided by the client.

SGS Job No. : CP22-039727 - GZ

Date of Sample Received : 18 Jul 2022

Testing Period : 18 Jul 2022 - 22 Jul 2022

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

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

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

Result Summary :

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	PASS
Halogen	See Results

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

scan to see the report

1B793752

Coral Qiu

Coral Qiu
Approved Signatory

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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 sgs.china@sgs.com

Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN22-153605.001	Yellow transparent plastic film

Remarks :

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

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

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	001
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

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

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
(2) IEC 62321 series is equivalent to EN 62321 series
(3) 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.

Halogen

Test Method : With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit	MDL	001
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.

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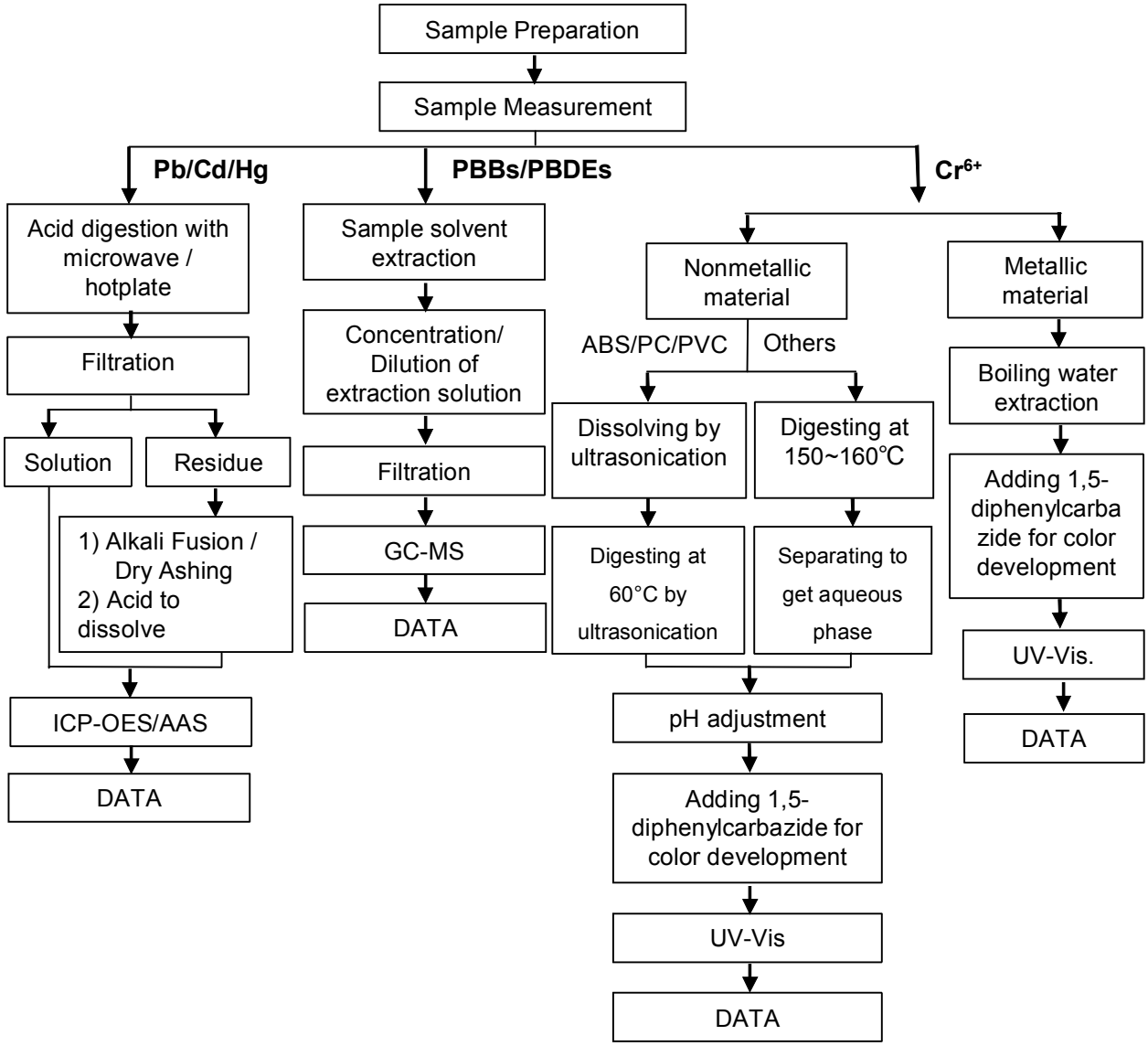
ATTACHMENTS

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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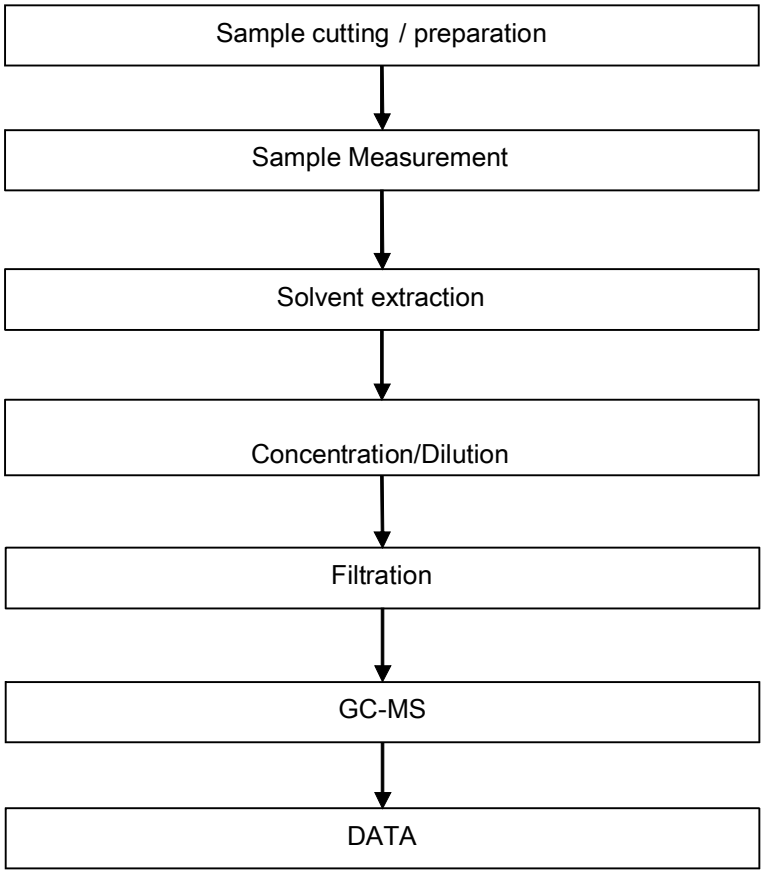
ATTACHMENTS

Phthalates Testing Flow Chart



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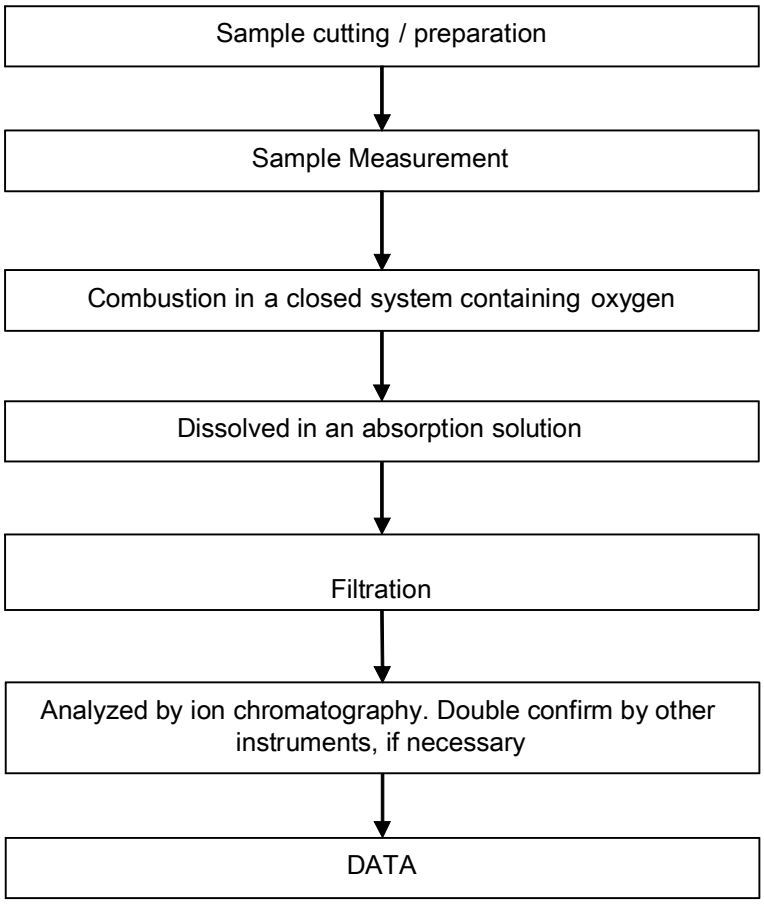
ATTACHMENTS

Halogen Testing Flow Chart



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Sample photo:

CAN22-153605.001

SGS authenticate the photo on original report only

*** End of Report ***

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检测报告
Test Report

报告编号 A222042831210101ER1 第 1 页 共 15 页
Report No. A222042831210101ER1 Page 1 of 15

报告抬头公司名称	深圳创达五金饰品有限公司/深圳市创达华跃科技有限公司/深圳市创达晖跃技术有限公司
Company Name shown on Report	SHENZHEN CHUANGDA HAREWARE ACCESSORIES CO;LTD/ SHENZHEN CHUANGDAHUAYUE TECHNOLOGY CO;LTD/ SHENZHEN CHUANGDAHUIYUE TECHNOLOGY CO;LTD
地 址 Address	中国广东省深圳市宝安区松岗朗下第三工业区 THE 3RD INDUSTRIAL ZONE, LANGXIA,SONGGANG,BAOAN DISTRICT,SHENZHEN CITY ,GUANGDONG PROVINE,CHINA

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称	化镍金样品
Sample Name(s)	化镍金样品
样品接收日期	2022.09.23
Sample Received Date	Sep. 23, 2022
样品检测日期	2022.09.23-2022.10.09
Testing Period	Sep. 23, 2022 to Oct. 9, 2022
检测要求	根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)，铍(Be)，锑(Sb)，六溴环十二烷(HBCDD)，氟(F)，氯(Cl)，溴(Br)，碘(I)，全氟辛烷磺酸(PFOS)，全氟辛酸(PFOA)，邻苯二甲酸酯,多环芳烃(PAHs)进行测试。
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), Beryllium(Be), Antimony(Sb), Hexabromocyclododecane (HBCDD), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA), Phthalates,Polycyclic Aromatic Hydrocarbons (PAHs) in the submitted sample(s).
检测依据/检测结果 Test Method/Test Result(s)	请参见下页。 Please refer to the following page(s).

主 检 Tested by 黄伟龙 审 核 Reviewed by 刘琳慧

批 准 Approved by 郑晴涛 日 期 Date 2022.10.12

郑晴涛
技术经理 Technical Manager

No. R262621775

检测报告
Test Report

****

结论 Conclusion

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

****

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

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

检测报告
Test Report

检测依据 Test Method

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	参考 IEC 62321-4:2013+AMD1:2017 CSV Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
多溴联苯 Polybrominated Biphenyls (PBBs)*	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)*	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)*	IEC 62321-8:2017	GC-MS
铍 Beryllium(Be)*	参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
锑 Antimony(Sb)*	参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
六溴环十二烷 Hexabromocyclododecane (HBCDD)*	IEC 62321-9:2021	GC-MS
氟 Fluorine (F)*	参考 EN 14582:2016 Refer to EN 14582:2016	IC
氯 Chlorine (Cl)*	参考 EN 14582:2016 Refer to EN 14582:2016	IC
溴 Bromine (Br)*	参考 EN 14582:2016 Refer to EN 14582:2016	IC
碘 Iodine (I)*	参考 EN 14582:2016 Refer to EN 14582:2016	IC
全氟辛烷磺酸 Perfluorooctane Sulfonates(PFOS)	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
全氟辛酸 Perfluorooctanoic Acid(PFOA)	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
邻苯二甲酸酯 Phthalates*	参考 EN 14372:2004(E) Refer to EN 14372:2004(E)	GC-MS
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)*	AfPS GS 2019:01 PAK	GC-MS

检测报告
Test Report

检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
铅 Lead (Pb)	61 mg/kg	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.▼	0.10 μg/cm² (LOQ)	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
多溴联苯 Polybrominated Biphenyls (PBBs)*			
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)*			
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg	

检测报告
Test Report

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)*			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
铍 Beryllium (Be)*	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
锑 Antimony (Sb)*	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	002	
六溴环十二烷 Hexabromocyclododecane (HBCDD)*	N.D.	20 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
氟 Fluorine (F)*	N.D.	1 μg/cm²
氯 Chlorine (Cl)*	N.D.	1 μg/cm²
溴 Bromine (Br)*	N.D.	1 μg/cm²
碘 Iodine (I)*	N.D.	1 μg/cm²

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS)	N.D.	0.5 μg/m²

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
全氟辛酸 Perfluorooctanoic Acid (PFOA)	N.D.	0.5 μg/m²

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	002	
邻苯二甲酸酯 Phthalates*		
邻苯二甲酸二异壬酯 Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	50 mg/kg
邻苯二甲酸二异癸酯 Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	50 mg/kg
邻苯二甲酸二甲酯 Dimethyl phthalate (DMP) CAS#:131-11-3	N.D.	30 mg/kg
邻苯二甲酸二戊酯 Dipentyl phthalate (DPP/DPENP) CAS#:131-18-0	N.D.	30 mg/kg
邻苯二甲酸二己酯 Di-n-hexyl phthalate (DNHP/DHEXP) CAS#:84-75-3	N.D.	30 mg/kg
邻苯二甲酸二(2-甲氧基)乙酯 Bis(2-methoxyethyl) phthalate (DMEP) CAS#:117-82-8	N.D.	30 mg/kg

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测试项目 Tested Item(s)	结果 Result 002	方法检出限 MDL
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)*		
萘 Naphthalene	N.D.	0.2 mg/kg
菲 Phenanthrene	N.D.	0.2 mg/kg
蒽 Anthracene	N.D.	0.2 mg/kg
荧蒽 Fluoranthene	N.D.	0.2 mg/kg
芘 Pyrene	N.D.	0.2 mg/kg
䓛 Chrysene	N.D.	0.2 mg/kg
苯并(a)蒽 Benzo(a)anthracene	N.D.	0.2 mg/kg
苯并(b)荧蒽 Benzo(b)fluoranthene	N.D.	0.2 mg/kg
苯并(k)荧蒽 Benzo(k)fluoranthene	N.D.	0.2 mg/kg
苯并(j)荧蒽 Benzo(j)fluoranthene	N.D.	0.2 mg/kg
苯并(a)芘 Benzo(a)pyrene	N.D.	0.2 mg/kg
苯并(e)芘 Benzo(e)pyrene	N.D.	0.2 mg/kg
二苯并(a,h)蒽 Dibenzo(a,h)anthracene	N.D.	0.2 mg/kg
苯并(g,h,i)苝 Benzo(g,h,i)perylene	N.D.	0.2 mg/kg
茚并(1,2,3-cd)芘 Indenol(1,2,3-cd)pyrene	N.D.	0.2 mg/kg
菲,蒽,荧蒽,芘总量 Sum (Phenanthrene, Anthracene, Fluoranthene, Pyrene)	N.D.	/
15 PAHs 总量 Sum 15 PAHs	N.D.	/

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样品/部位描述 Sample/Part Description

001 金色镀层 Golden plating
002 带有金色镀层的金属 Metal with golden plating

备注: **对于检测铅，镉，汞，铍，锑之样品已消解完全。**
-N.D. = 未检出 (小于方法检出限或定量限)
-mg/kg = ppm = 百万分之一
-1000 mg/kg = 0.1%
-LOQ = 定量限，六价铬的定量限为 0.10 μg/cm^2
-▼六价铬浓度小于 0.10 μg/cm^2，样品未检出六价铬。

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

注释： **-*表示该项目/方法不在 CNAS 认可范围内。**
-本报告将报告编号为 A2220428312101001E, A2220428312101002E 的检测报告合并成一份。本报告替换原报告（报告编号：A2220428312101001E, A2220428312101002E），自本报告签发之日起，原报告 A2220428312101001E, A2220428312101002E 作废。
-本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。

Note: **-*indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.**
-This testing report integrated these testing reports (No. A2220428312101001E, A2220428312101002E) into one. This testing report displaces the original ones which were invalid since the date of this testing report released.
-The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.

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可接触的表面材料中 PAHs 含量限值(mg/kg)(按风险评估的结果分类)
Maximum PAHs limits (mg/kg) for the materials with relevant contact/grip and operating surfaces that are to be categorised based on the results of the risk assessment

参数 **Parameters**	**一类 Category 1**	**二类 Category 2**		**三类 Category 3**	
	可放入口中的材料，或预期和皮肤接触时间超过 30 秒（长时间接触）2009/48/EC 定义的玩具材料或供 3 岁以下儿童使用的产品 Materials intended to be placed in the mouth, or materials in toys according to Directive 2009/48/EC or materials for the use by children up to 3 years of age coming into long-term contact with skin (more than 30s) during the intended use	未包含在第一类材料中，预期和皮肤接触时间超过30秒(长时间接触)，或者和皮肤短时间频繁接触**的材料 Materials not covered by category 1, coming into long-term contact (more than 30s) or short-term repetitive contact** with skin during the intended or foreseeable use		未包含在第一类和第二类材料中，预期和皮肤接触时间不超过30秒（短时间接触）的材料 Materials not covered by category 1 nor by category 2, coming into short-term contact (up to 30s) with skin during the intended or foreseeable use	
		供儿童（< 14 岁）使用的产品（包括主动和被动直接接触） Use by children (< 14 years) (include both active and passive direct contact)	其他类产品 Other consumer products	供儿童（< 14 岁）使用的产品（包括主动和被动直接接触） Use by children (< 14 years) (include both active and passive direct contact)	其他类产品 Other consumer products
苯并(a)芘 Benzo(a)pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
苯并(e)芘 Benzo(e)pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
苯并(a)蒽 Benzo(a)anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
苯并(b)荧蒽 Benzo(b)fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
苯并(j)荧蒽 Benzo(j)fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
苯并(k)荧蒽 Benzo(k)fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
䓛Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
二苯并(a,h)蒽 Dibenz(a,h)anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
苯并(g,h,i)苝 Benzo(g,h,i)perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
茚并(1,2,3-cd)芘 Indenol(1,2,3-cd)pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
菲,蒽,荧蒽,芘	总量 < 1	总量 < 5	总量 < 10	总量 < 20	总量 < 50

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Phenanthrene, Anthracene, Fluoranthene, Pyrene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
萘 Naphthalene	< 1	< 2		< 10	
15 PAHs 总量 Sum 15 PAHs	< 1	< 5	< 10	< 20	< 50

** “短时间频繁接触” 来自REACH法规附录XVII第50项的修订案(法规 (EU) No. 1272/2013)
Definition “short-term repetitive contact” taken from REACH Annex XVII entry 50 amendment (REGULATION (EU) No.1272/2013)

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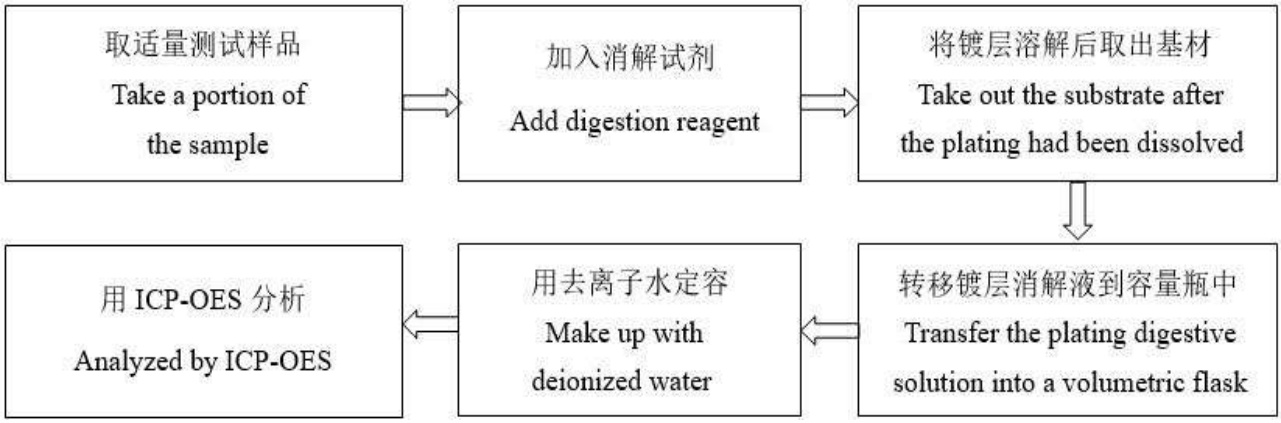
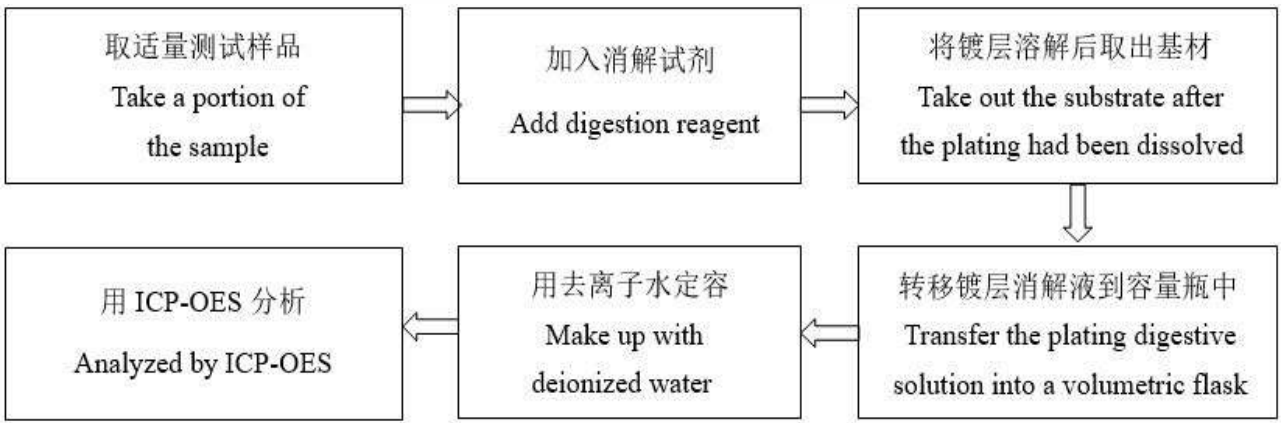
检测流程 Test Process

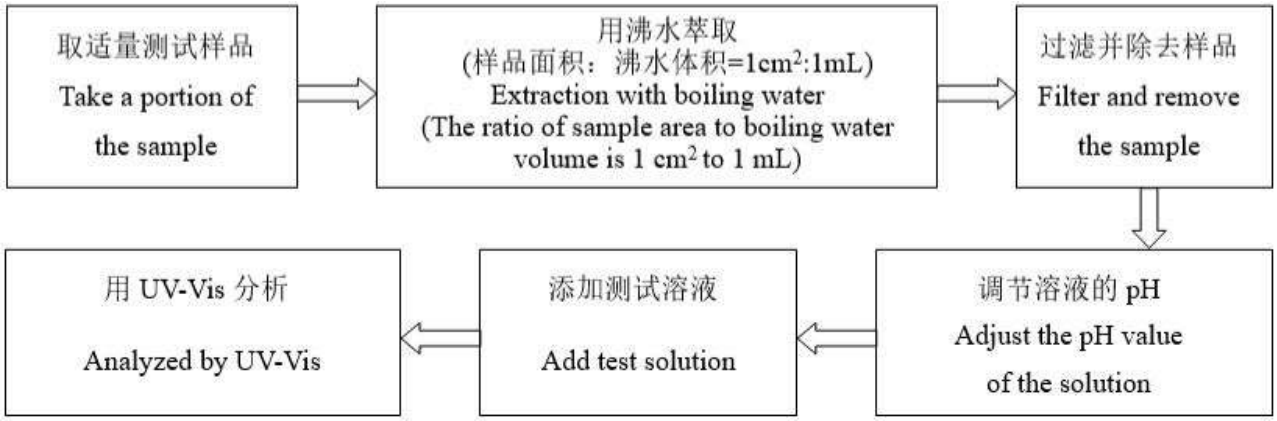
1. 铅 Lead (Pb), 镉 Cadmium (Cd)



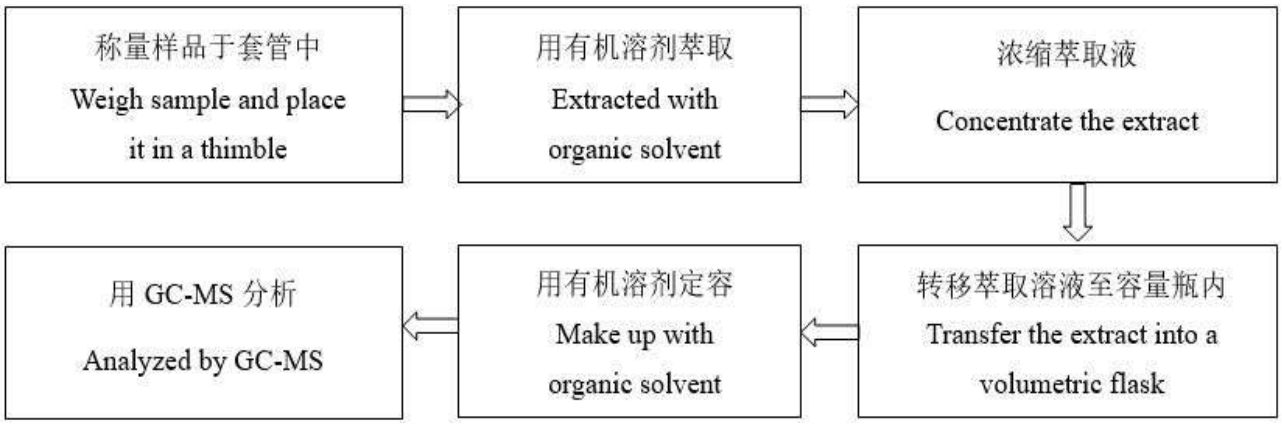
2. 汞 Mercury (Hg)



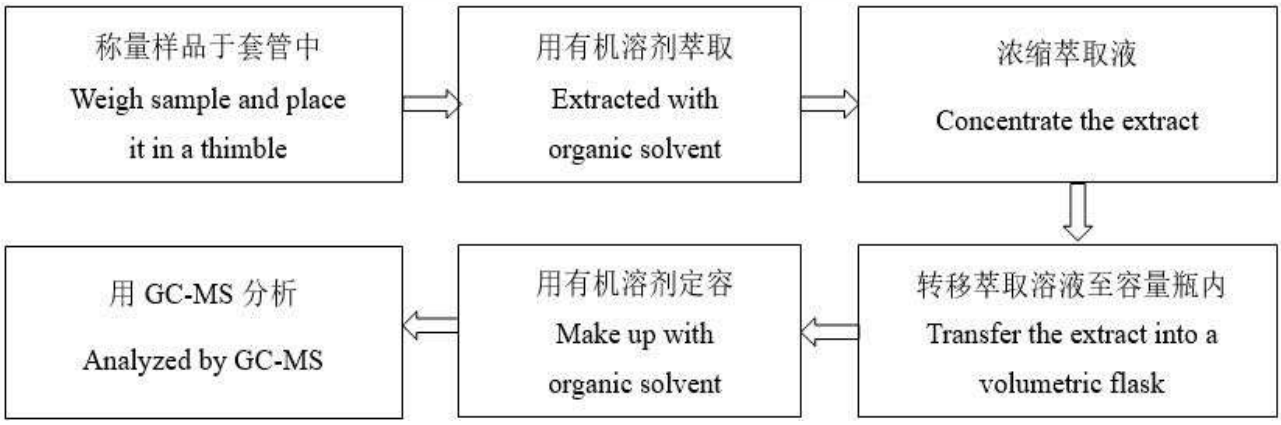
3. 六价铬 Hexavalent Chromium (Cr(VI))



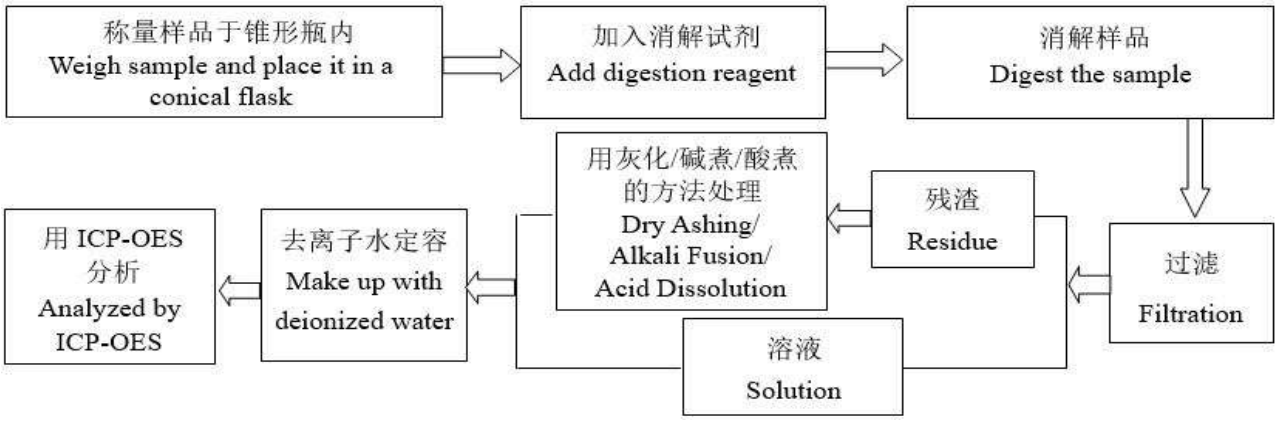
4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



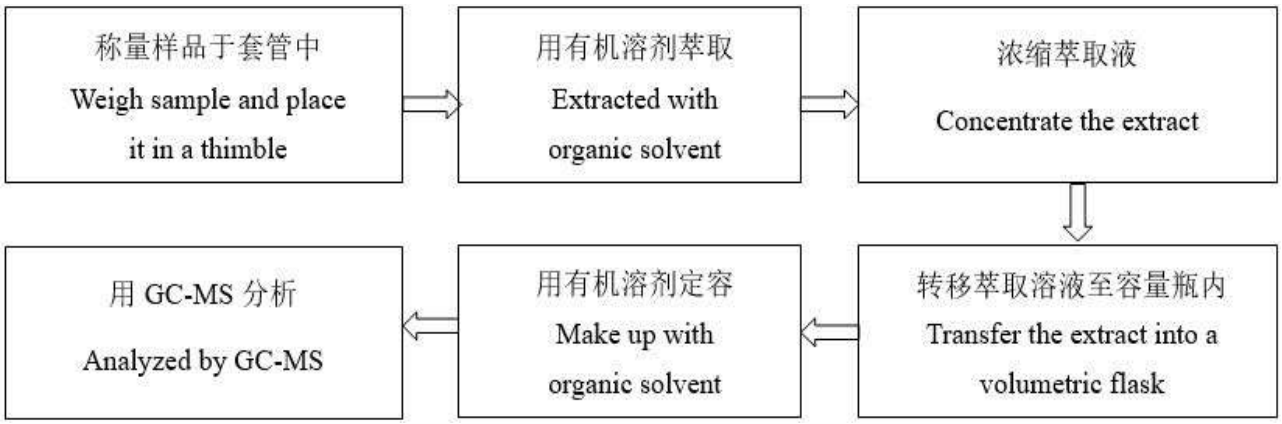
5. 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)



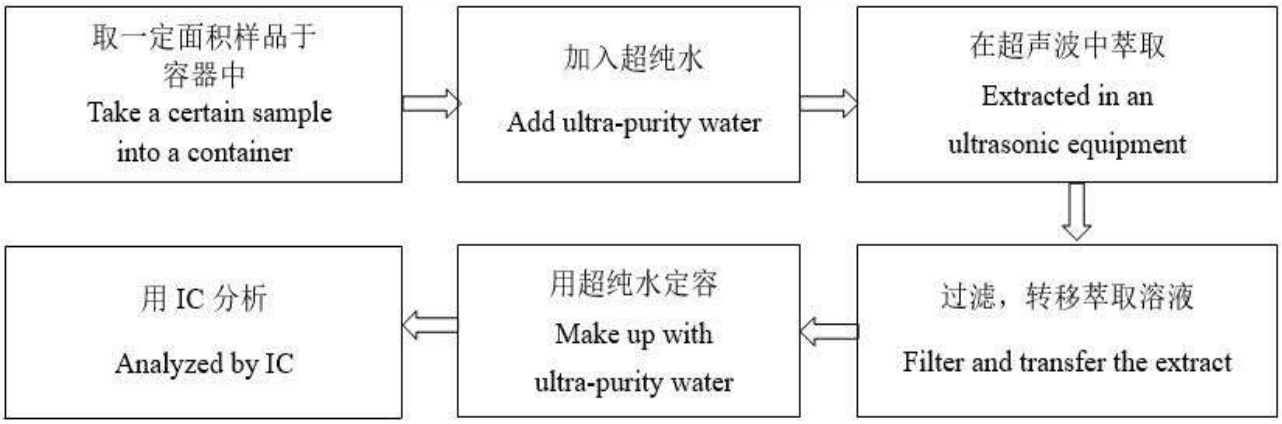
6. 铍 Beryllium(Be), 锑 Antimony(Sb)



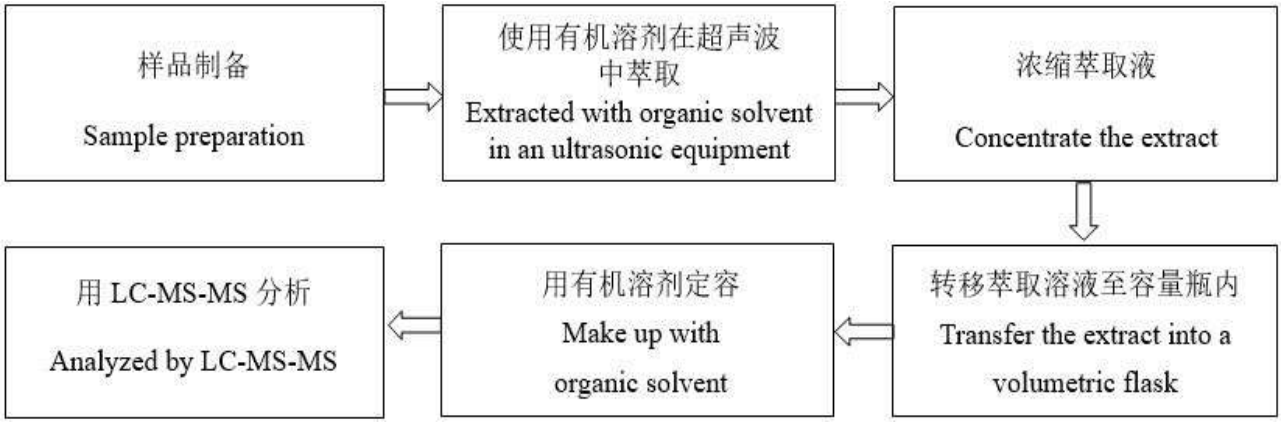
7. 六溴环十二烷 Hexabromocyclododecane (HBCDD)



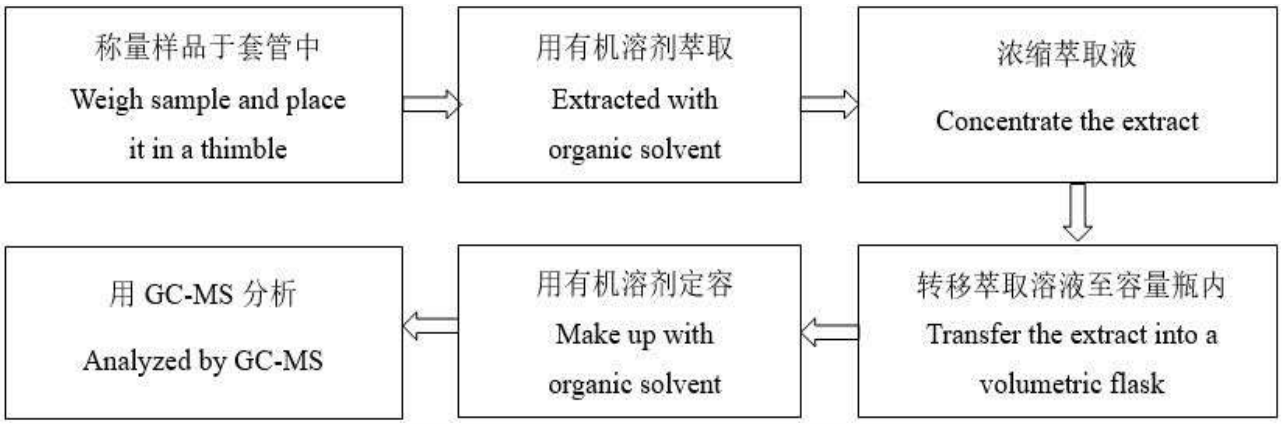
8. 氟 Fluorine (F)，氯 Chlorine (Cl)，溴 Bromine (Br)，碘 Iodine (I)



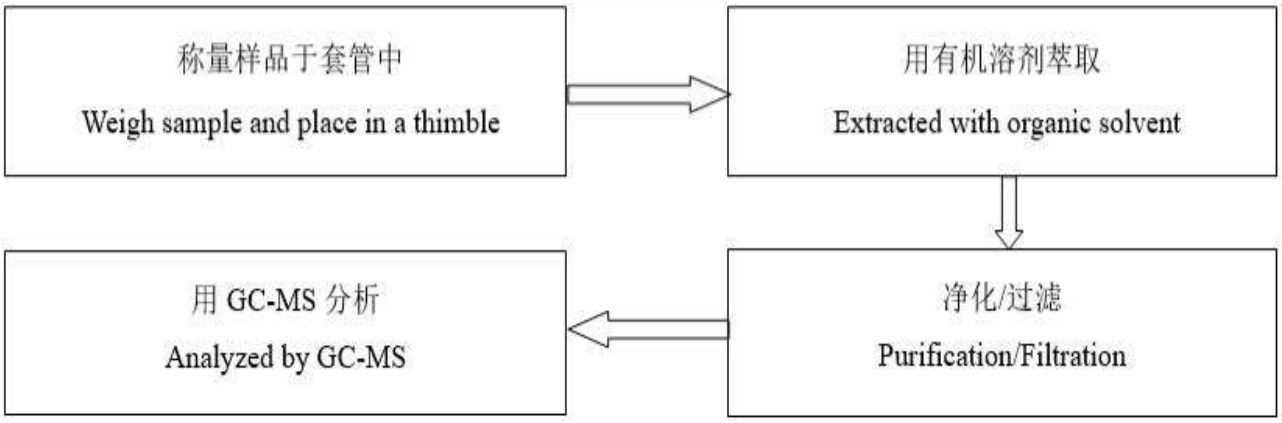
9. 全氟辛烷磺酸 (PFOS)Perfluorooctane Sulfonates(PFOS)，全氟辛酸 (PFOA)Perfluorooctanoic Acid(PFOA)



10. 邻苯二甲酸酯 Phthalates



11. 多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)



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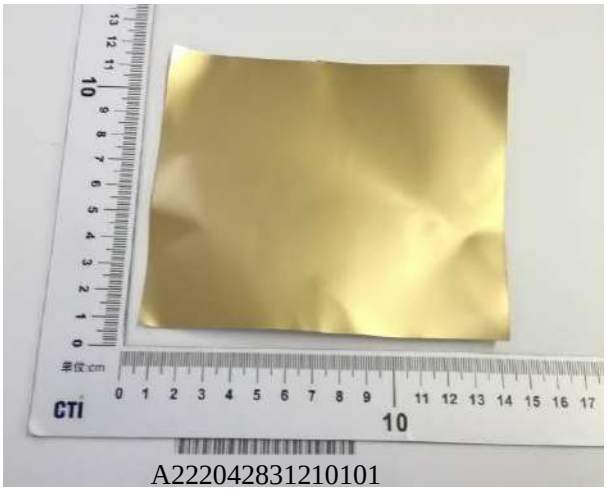
样品图片

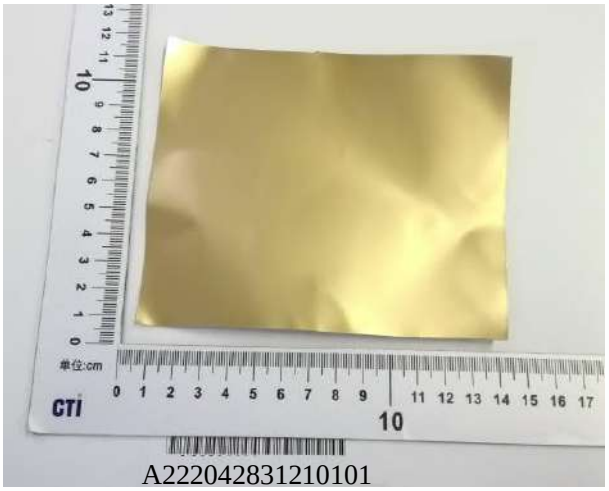
Photo(s) of the sample(s)

001



A222042831210101

002



A222042831210101

声明 Statement：

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效；
   This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI 未核实其真实性；
   The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. 本报告检测结果仅对受测样品负责；
   The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 未经 CTI 书面同意，不得部分复制本报告；
   Without written approval of CTI, this report can't be reproduced except in full;
5. 如检测报告中的英文内容与中文内容有差异，以中文为准。
   In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** 报告结束 ***
*** End of Report ***

检测报告
Test Report

报告编号 A2220299069101001E
Report No. A2220299069101001E

报告抬头公司名称	中山新高電子材料股份有限公司
Company Name shown on Report	ALLSTAR TECH (ZHONGSHAN) CO.,LTD.
地　　址	廣東省中山市火炬開發區沿江西一路 6 號
Address	YANJIANG WEST 1,NO.6 ROAD，KEJI AVENUE，TORCH HI-TECH INDUSTRIAL DEVELOPMENT ZONE,ZHONGSHAN CITY,GUANGDONG, CHINA

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称	2-Layer Double-side（AS2L-AD）
Sample Name	2-Layer Double-side（AS2L-AD）
样品接收日期	2022.07.14
Sample Received Date	Jul. 14, 2022
样品检测日期	2022.07.14-2022.07.18
Testing Period	Jul. 14, 2022 to Jul. 18, 2022

测试内容 Test Conducted：
根据客户的申请要求，具体要求详见下一页。
As requested by the applicant. For details refer to next page(s).

主　检 Tested by	吴晨龙	审　核 Reviewed by	
批　准 Approved by	方理松	日　期 Date	2022.07.18

方理松
授权签字人 Lab Authorized Signatory

No. R262621851

华测检测认证集团股份有限公司
Centre Testing International Group Co.,Ltd.
广东省深圳市宝安区新安街道兴东社区华测检测大楼
CTI Building. Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

检测报告
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测试摘要 Executive Summary:

测试要求 TEST REQUEST	测试结果 CONCLUSION
1） 欧盟 RoHS 指令 2011/65/EU 及其修订指令(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)	符合 PASS
2） 根据客户要求，对所提交样品中的砷(As)，氟(F)，氯(Cl)，溴(Br)，碘(I)，聚氯乙烯(PVC)进行测试。	见第 6 页 See page 6
3） 欧盟持久性有机污染物(POPs)法规(EU) 2019/1021 Regulation (EU) 2019/1021 on persistent organic pollutants (POPs)	
- 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	见第 10 页 See page 10
- 全氟辛烷磺酸(PFOS)及其衍生物 Perfluorooctane sulfonic acid (PFOS) and its derivatives	符合 PASS
- 六溴环十二烷 Hexabromocyclododecane (HBCDD)	符合 PASS
- 短链氯化石蜡 Short Chain Chlorinated Paraffins (SCCPs)	符合 PASS
- 滴滴涕(1,1,1-三氯-2,2-二(对-氯苯基)乙烷) DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane)	符合 PASS
- 氯丹 Chlordane	符合 PASS
- 六氯环己烷，包括林丹 Hexachlorocyclohexanes, including Lindane	符合 PASS
- 狄氏剂 Dieldrin	符合 PASS
- 异狄氏剂 Endrin	符合 PASS
- 七氯 Heptachlor	符合 PASS
- 硫丹 Endosulfan	符合 PASS
- 十氯酮 Chlordecone	符合 PASS

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-	艾氏剂	**符合**
	Aldrin	**PASS**
-	灭蚁灵	**符合**
	Mirex	**PASS**
-	毒杀芬	**符合**
	Toxaphene	**PASS**
-	五氯苯	**符合**
	Pentachlorobenzene	**PASS**
-	六氯苯	**符合**
	Hexachlorobenzene	**PASS**
-	六溴联苯	**符合**
	Hexabromobiphenyl	**PASS**
-	多氯联苯	**符合**
	Polychlorinated Biphenyls(PCBs)	**PASS**
-	多氯化萘	**符合**
	Polychlorinated Naphthalenes (PCNs)	**PASS**
-	六氯丁二烯	**符合**
	Hexachlorobutadiene	**PASS**
-	五氯苯酚及其盐和酯	**符合**
	Pentachlorophenol and its salts and esters	**PASS**
-	全氟辛酸(PFOA)及其盐	**符合**
	Perfluorooctanoic acid (PFOA) and its salts	**PASS**
-	全氟辛酸类相关物质	**符合**
	Perfluorooctanoic acid related substances	**PASS**
-	三氯杀螨醇	**符合**
	Dicofol	**PASS**

**********详细结果，请见下页**********

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

检测报告
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检测依据 Test Method

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017 和/或 IEC 62321-5:2013 测试总铬含量 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
砷 Arsenic(As)	参考 US EPA 3052:1996 & US EPA 6010D:2018 Refer to US EPA 3052:1996 & US EPA 6010D:2018	ICP-OES
氟 Fluorine (F)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
氯 Chlorine (Cl)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
溴 Bromine (Br)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
碘 Iodine (I)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
聚氯乙烯 Polyvinyl Chloride (PVC)	参考 JY/T 001-1996 Refer to JY/T 001-1996	FT-IR

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Test Report

检测结果 1 Test Result(s) 1

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

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

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

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

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
砷 Arsenic (As)	N.D.	10 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
氟 Fluorine (F)	N.D.	10 mg/kg
氯 Chlorine (Cl)	N.D.	10 mg/kg
溴 Bromine (Br)	N.D.	10 mg/kg
碘 Iodine (I)	N.D.	10 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
聚氯乙烯 Polyvinyl Chloride (PVC)	阴性 Negative	/

备注: **对于检测铅，镉，汞，砷之样品已消解完全。**
-N.D. = 未检出 (小于方法检出限)
-mg/kg = ppm = 百万分之一
-1000 mg/kg = 0.1%

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Arsenic.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%

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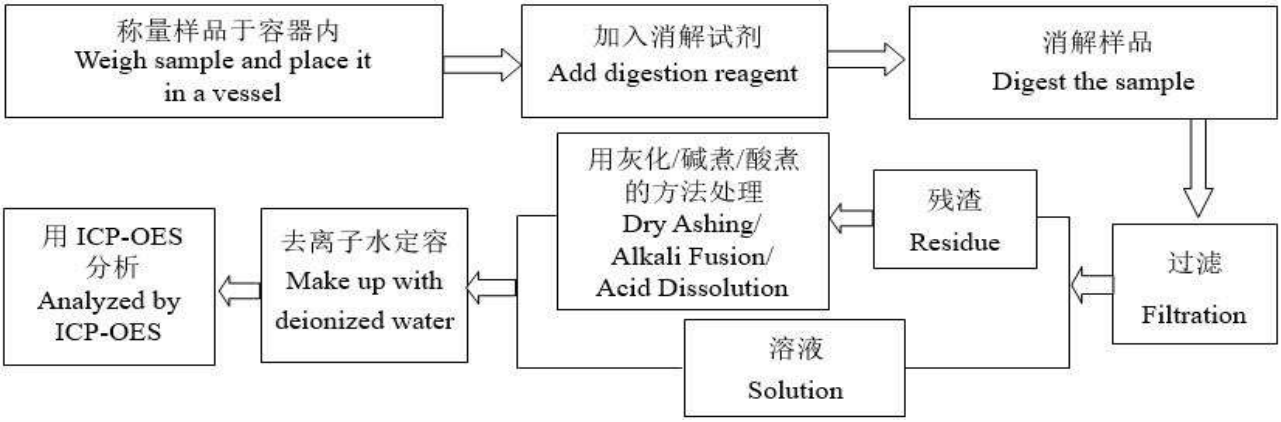
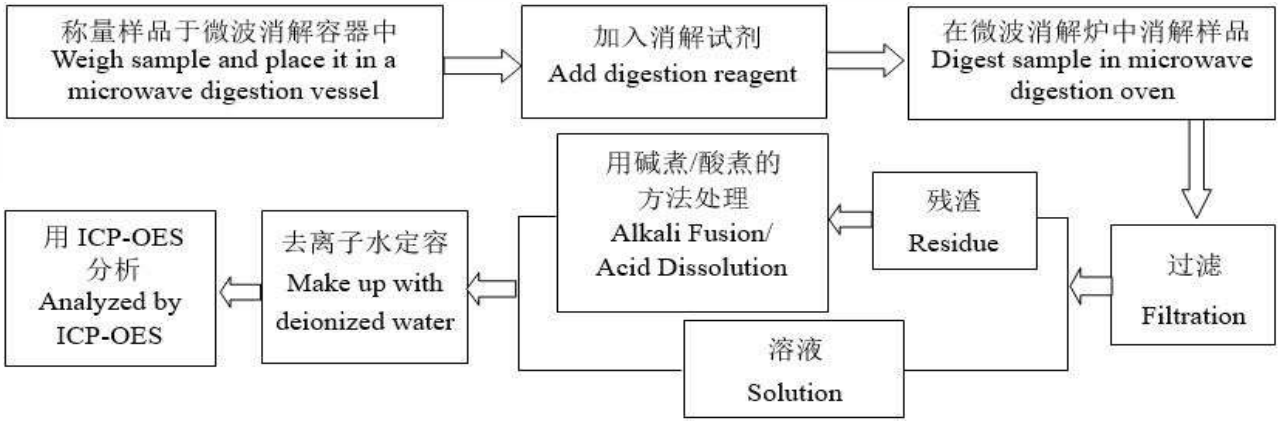
检测流程 Test Process

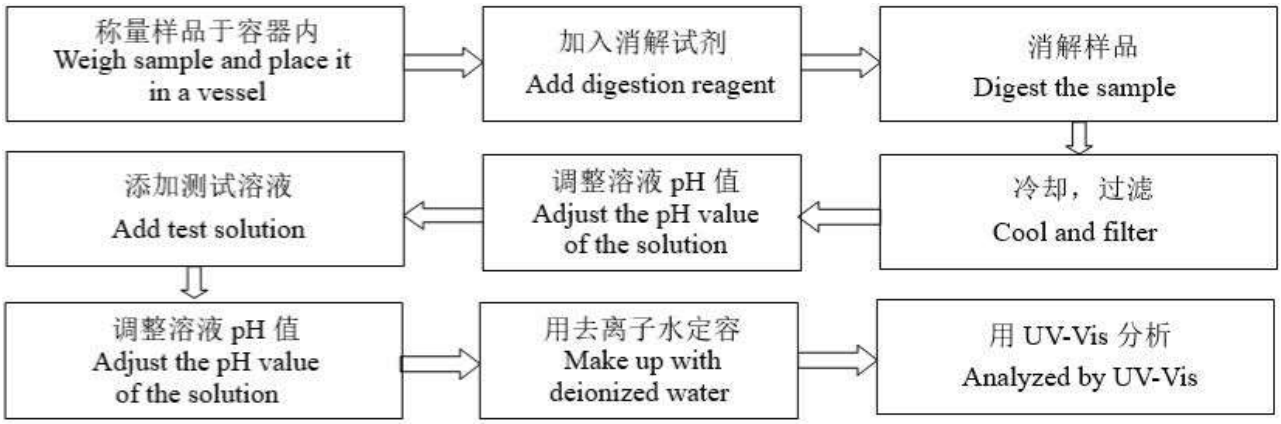
1. 铅 Lead (Pb), 镉 Cadmium (Cd), 铬 Chromium(Cr)



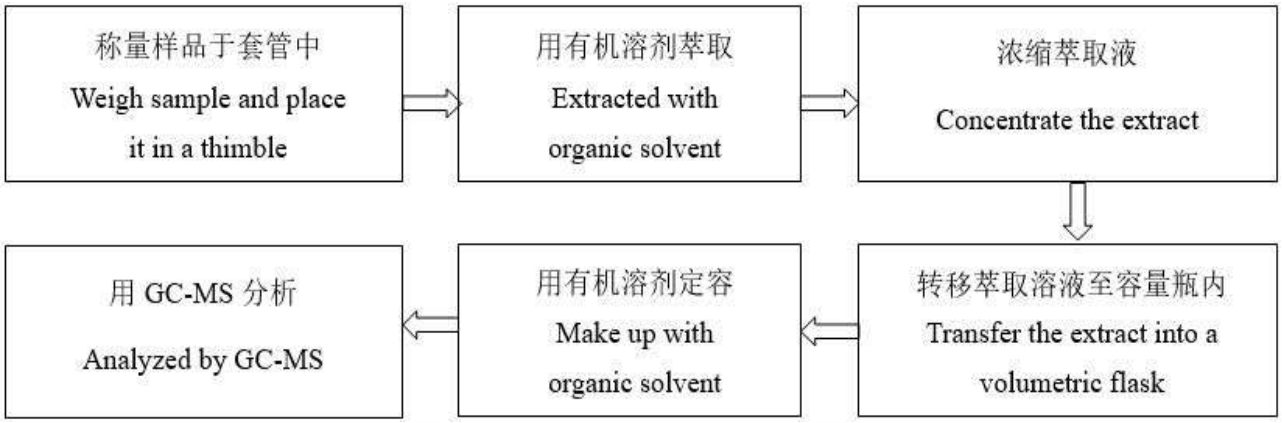
2. 汞 Mercury (Hg)



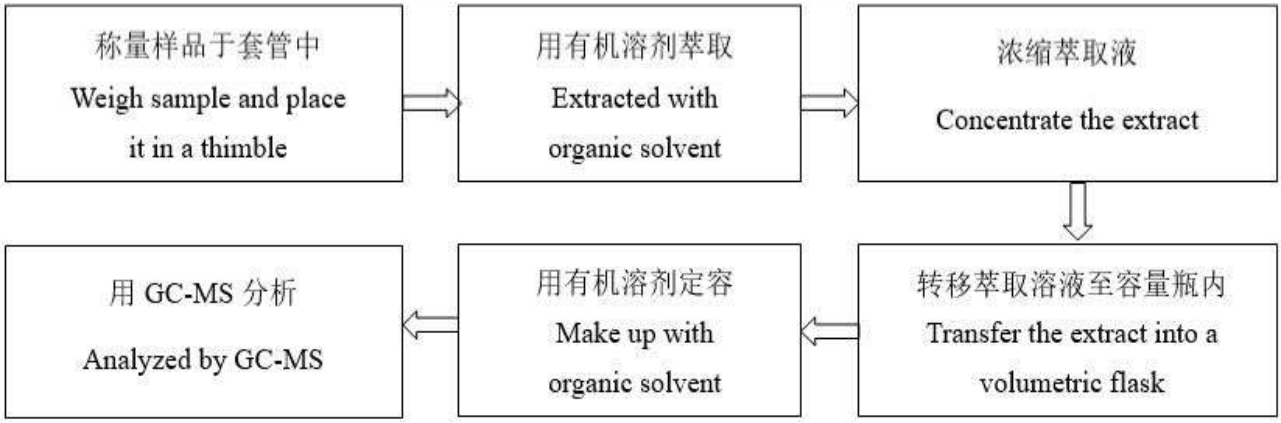
3. 六价铬 Hexavalent Chromium (Cr(VI))



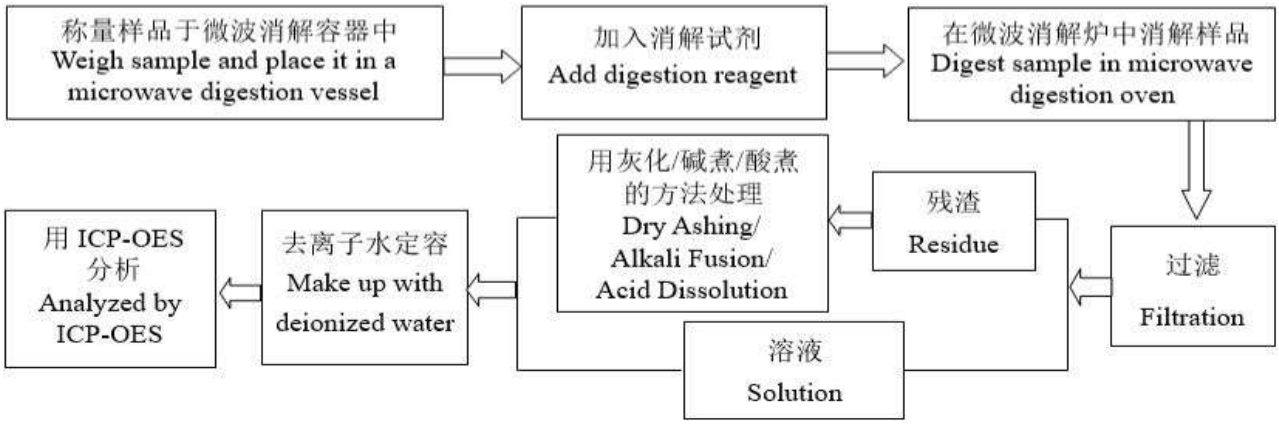
4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



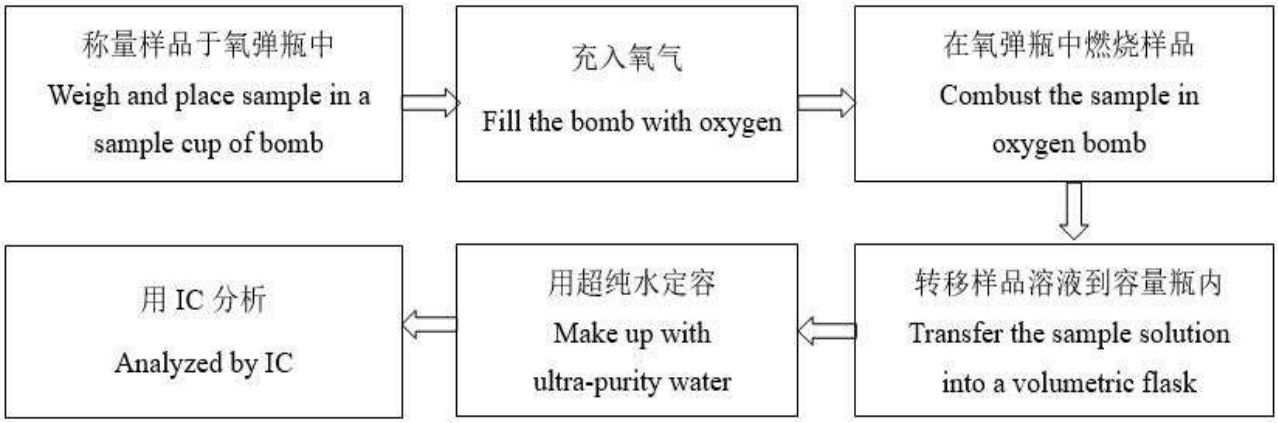
5. 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)



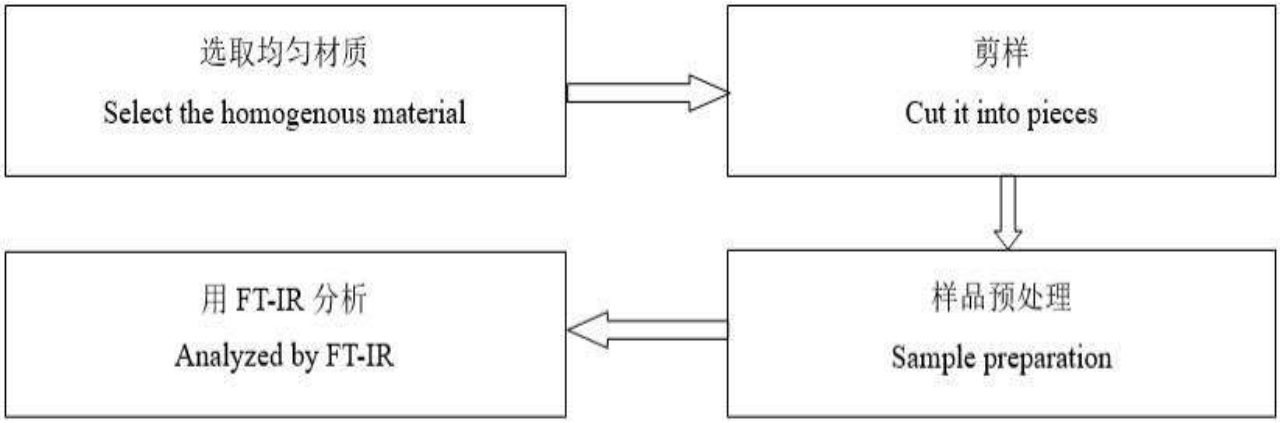
6. 砷 Arsenic(As)



7. 氟 Fluorine (F), 氯 Chlorine (Cl), 溴 Bromine (Br), 碘 Iodine (I)



8. 聚氯乙烯 Polyvinyl Chloride (PVC)



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检测结果 2 Test Result(s) 2

欧盟持久性有机污染物(POPs)法规(EU) 2019/1021 Regulation (EU) 2019/1021 on persistent organic pollutants (POPs)

▼多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)

使用方法 IEC 62321-6:2015，通过 GC-MS 分析。

Method(s) IEC 62321-6:2015 was/were used, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5
十溴二苯醚 Decabromodiphenyl ether	N.D.	5
总和 Total	N.D.	--

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

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▼**全氟辛烷磺酸(PFOS)及其衍生物 Perfluorooctane sulfonic acid (PFOS) and its derivatives#**

使用方法 CEN/TS 15968:2010，通过 LC-MS-MS 分析。

Method(s) CEN/TS 15968:2010 was/were used, and the item(s) was/were analyzed by LC-MS-MS.

测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
全氟辛烷磺酸 Perfluorooctane sulfonic acid (PFOS) ▲	--	N.D.	0.010	--
全氟辛基磺酰胺 Perfluorooctane sulfonamide (PFOSA)	754-91-6	N.D.	0.010	--
氟虫胺 N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	N.D.	0.050	--
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-甲基-辛磺酰胺 N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	N.D.	0.050	--
N-乙基全氟辛基磺酰胺乙醇 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2	N.D.	0.050	--
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-(2-羟乙基)-N-甲基-1-辛基磺酰胺 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	N.D.	0.050	--
总和 Total	--	N.D.	--	1000

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million
- 1000 mg/kg = 0.1%
- ▲全氟辛烷磺酸(PFOS)包含 Perfluorooctane sulfonic acid (PFOS) contains:

物质名称 Substance Name(s)	CAS No.
全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS)	1763-23-1
全氟辛基磺酸钾 Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3
全氟正辛基磺酸锂 Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
全氟辛基磺酸铵 Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH_4)	29081-56-9

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十七氟代-1-辛磺酸与二乙醇胺的化合物 Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH)$_2$)	70225-14-8
全氟辛基磺酸四乙基胺 Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C_2H_5)$_4$)	56773-42-3
全氟辛基磺酸二癸二甲基铵 Didecyl dimethyl ammonium perfluorooctane sulfonate (PFOS-DDA)	251099-16-8
全氟辛基磺酰氟 Perfluoro-1-octanesulfonyl fluoride (PFOSF)	307-35-7

▼六溴环十二烷 Hexabromocyclododecane (HBCDD)

参考方法 US EPA 3540C:1996 & US EPA 8270E:2018，通过 GC-MS 分析。

Refer to method(s) US EPA 3540C:1996 & US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
六溴环十二烷 Hexabromocyclododecane (HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	N.D.	5	100

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million
- "六溴环十二烷(HBCDD)"指：六溴环十二烷(HBCDD)、1,2,5,6,9,10-六溴环十二烷及其非对映异构体(α-HBCDD, β-HBCDD, γ-HBCDD)
  'Hexabromocyclododecane (HBCDD)' means: Hexabromocyclododecane (HBCDD), 1,2,5,6,9,10-hexabromocyclododecane and its main diastereoisomers: α-HBCDD, β-HBCDD, γ-HBCDD

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▼短链氯化石蜡 Short Chain Chlorinated Paraffins (SCCPs)

参考方法 US EPA 3540C:1996 & US EPA 8270E:2018，通过 GC-MS(NCI)分析。

Refer to method(s) US EPA 3540C:1996 & US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS(NCI).

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
短链氯化石蜡 Short Chain Chlorinated Paraffins (SCCPs)	N.D.	100	1500

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼滴滴涕(1,1,1-三氯-2,2-二(对-氯苯基)乙烷) DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane)#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
滴滴涕(1,1,1-三氯-2,2-二(对-氯苯基)乙烷) DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane)	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

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▼氯丹 Chlordane#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
氯丹 Chlordane	N.D.	5	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼六氯环己烷，包括林丹 Hexachlorocyclohexanes, including Lindane#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
六氯环己烷，包括林丹 Hexachlorocyclohexanes, including Lindane	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

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▼狄氏剂 Dieldrin#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
狄氏剂 Dieldrin	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼异狄氏剂 Endrin#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
异狄氏剂 Endrin	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼七氯 Heptachlor#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
七氯 Heptachlor	N.D.	50	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼硫丹 Endosulfan#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
硫丹 Endosulfan	N.D.	50	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

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▼**十氯酮 Chlordecone#**

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
十氯酮 Chlordecone	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼**艾氏剂 Aldrin#**

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
艾氏剂 Aldrin	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

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▼**灭蚁灵 Mirex**

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
灭蚁灵 Mirex	N.D.	5	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼**毒杀芬 Toxaphene#**

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
毒杀芬 Toxaphene	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

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▼**五氯苯 Pentachlorobenzene#**

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
五氯苯 Pentachlorobenzene	N.D.	50	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼**六氯苯 Hexachlorobenzene#**

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
六氯苯 Hexachlorobenzene	N.D.	50	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

检测报告
Test Report

▼六溴联苯 Hexabromobiphenyl

使用方法 IEC 62321-6:2015，通过 GC-MS 分析。

Method(s) IEC 62321-6:2015 was/were used, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
六溴联苯 Hexabromobiphenyl	N.D.	5	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼多氯联苯 Polychlorinated Biphenyls(PCBs)

参考方法 US EPA 3540C:1996 & US EPA 8270E:2018，通过 GC-MS 分析。

Refer to method(s) US EPA 3540C:1996 & US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
多氯联苯 Polychlorinated Biphenyls(PCBs)	N.D.	5	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

检测报告
Test Report

▼多氯化萘 Polychlorinated Naphthalenes (PCNs)

参考方法 US EPA 3540C:1996 & US EPA 8270E:2018，通过 GC-MS 分析。

Refer to method(s) US EPA 3540C:1996 & US EPA 8270E:2018, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
多氯化萘 Polychlorinated Naphthalenes (PCNs)	N.D.	5	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼六氯丁二烯 Hexachlorobutadiene#

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
六氯丁二烯 Hexachlorobutadiene	N.D.	50	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

检测报告
Test Report

▼五氯苯酚及其盐和酯 Pentachlorophenol and its salts and esters#

参考方法 ISO 17070:2015，通过 GC-MS 分析。

Refer to method(s) ISO 17070:2015, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
五氯苯酚及其盐和酯 Pentachlorophenol and its salts and esters	N.D.	1	5

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million
- 五氯苯酚及其盐和酯的结果以五氯苯酚计。
  The test result of Pentachlorophenol and its salts and esters is calculated by Pentachlorophenol.

▼全氟辛酸(PFOA)及其盐 Perfluorooctanoic acid (PFOA) and its salts#

使用方法 CEN/TS 15968:2010，通过 LC-MS-MS 分析。

Method(s) CEN/TS 15968:2010 was/were used, and the item(s) was/were analyzed by LC-MS-MS.

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
全氟辛酸(PFOA)及其盐 Perfluorooctanoic acid (PFOA) and its salts	N.D.	0.010	0.025

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million
- 全氟辛酸(PFOA)及其盐包含 Perfluorooctanoic acid (PFOA) and its salts contains:

物质名称 Substance Name(s)	CAS No.
全氟辛酸 Perfluorooctanoic acid (PFOA)	335-67-1
全氟辛酸铵 Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
全氟辛酸钠 Sodium perfluorooctanoate (PFOA-Na)	335-95-5

检测报告
Test Report

全氟辛酸钾 Potassium perfluorooctanoate (PFOA-K)	2395-00-8
全氟辛酸银 Silver perfluorooctanoate (PFOA-Ag)	335-93-3
全氟辛氟 Perfluorooctanoyl fluoride (PFOA-F)	335-66-0

▼**全氟辛酸类相关物质 Perfluorooctanoic acid related substances#**

使用方法 CEN/TS 15968:2010，通过 LC-MS-MS & GC-MS 分析。

Method(s) CEN/TS 15968:2010 was/were used, and the item(s) was/were analyzed by LC-MS-MS & GC-MS.

测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
全氟辛酸甲酯 Methyl perfluorooctanoate (Me-PFOA)	376-27-2	N.D.	0.010	1
全氟辛酸乙酯 Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	N.D.	0.010	1
全氟正辛基碘烷 Perfluorooctyl iodide (PFOI)	507-63-1	N.D.	0.500	1
1H,1H,2H,2H-全氟癸基三乙氧基硅烷 1H,1H,2H,2H-Perfluorodecyltriethoxysilane (PFSI)	101947-16-4	N.D.	0.500	1
1H,1H,2H,2H-全氟-1-癸醇 1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	N.D.	0.500	1
1-碘-1H,1H,2H,2H-全氟癸烷 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-Heptadecafluoro-10-iododecane (8:2 FTI)	2043-53-0	N.D.	0.500	1
1H,1H,2H,2H-全氟癸磺酸 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	N.D.	0.500	1
丙烯酸 1H,1H,2H,2H-十七氟癸酯 1H,1H,2H,2H-Heptadecafluorodecyl acrylate (8:2 FTAC)	27905-45-9	N.D.	0.500	1
2-(全氟辛基)乙基甲基丙烯酸酯 1H,1H,2H,2H- Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	N.D.	0.500	1

检测报告
Test Report

测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
双(2-(全氟乙基))磷酸 8:2 Fluorotelomer phosphate diester (8:2diPAP)	678-41-1	N.D.	0.500	1
总和 Total	--	N.D.	--	1

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million
- 所列测试项目为全氟辛酸类相关物质的代表性物质。The tested items listed in the table are the representative substances for Perfluorooctanoic acid related substances.

▼**三氯杀螨醇 Dicofol#**

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
三氯杀螨醇 Dicofol	N.D.	0.05	N.D.

备注 Remark:
- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

样品/部位描述 带有铜色金属箔的薄膜
Sample/Part Description Film with cupreous metal foil

注释 Note:
- #表示该项目/方法不在 CNAS 认可范围内。
  #indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.
- 本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。
  The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.

检测报告
Test Report

样品图片

Photo(s) of the sample(s)

声明 Statement：

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

*** 报告结束 ***
*** End of Report ***

Test Report

Client Name : JIANGXI YOUZE NEW MATERIAL TECHNOLOGY CO., LTD

Client Address : ZONE A, LIANHUA INDUSTRIAL PARK, PINGXIANG CITY, JIANGXI PROVINCE, CHINA

Sample Name :	Black Coverlay
Model No. :	YZXC-B015
Client Ref. Info. :	YZXC-BB05、YZXC-BC05、YZXC-BC10、YZXC-BC12、YZXC-BC15、YZXC-BC50、YZXC-BD11、YZXC-B005、YZXC-B007、YZXC-B008、YZXC-B010、YZXC-B012、YZXC-B018、YZXC-B020、YZXC-B022、YZXC-B025、YZXC-B030、YZXC-B035、YZXC-B040、YZXC-B045、YZXC-B050、YZXC-B115、YZXC-B120、YZXC-B125、YZXC-B130、YZXC-B135、YZXC-B140、YZXC-B145、YZXC-B150、YZXC-B215、YZXC-B220、YZXC-B225、YZXC-B230、YZXC-B235、YZXC-B240、YZXC-B245、YZXC-B250、YZXC-B025GWA-Z、YZXC-B025-Z-P、HB1315、HB1325

The above sample(s) and information were provided by the client.

SGS Job No. :	RP23-001821 - SZ
Date of Sample Received :	09 Feb 2023
Testing Period :	09 Feb 2023 - 15 Feb 2023
Test Requested :	Selected test(s) as requested by the client.
Test Method(s) :	Please refer to next page(s).
Test Result(s) :	Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	PASS

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

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Ford Shi
Approved Signatory

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Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SZX23-001927.002	Black film

Remarks :

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

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

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	002
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	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

Test Item(s)	Limit	Unit	MDL	002
Pentabromodiphenyl ether	-	mg/kg	5	ND
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.

(2) IEC 62321 series is equivalent to EN 62321 series.

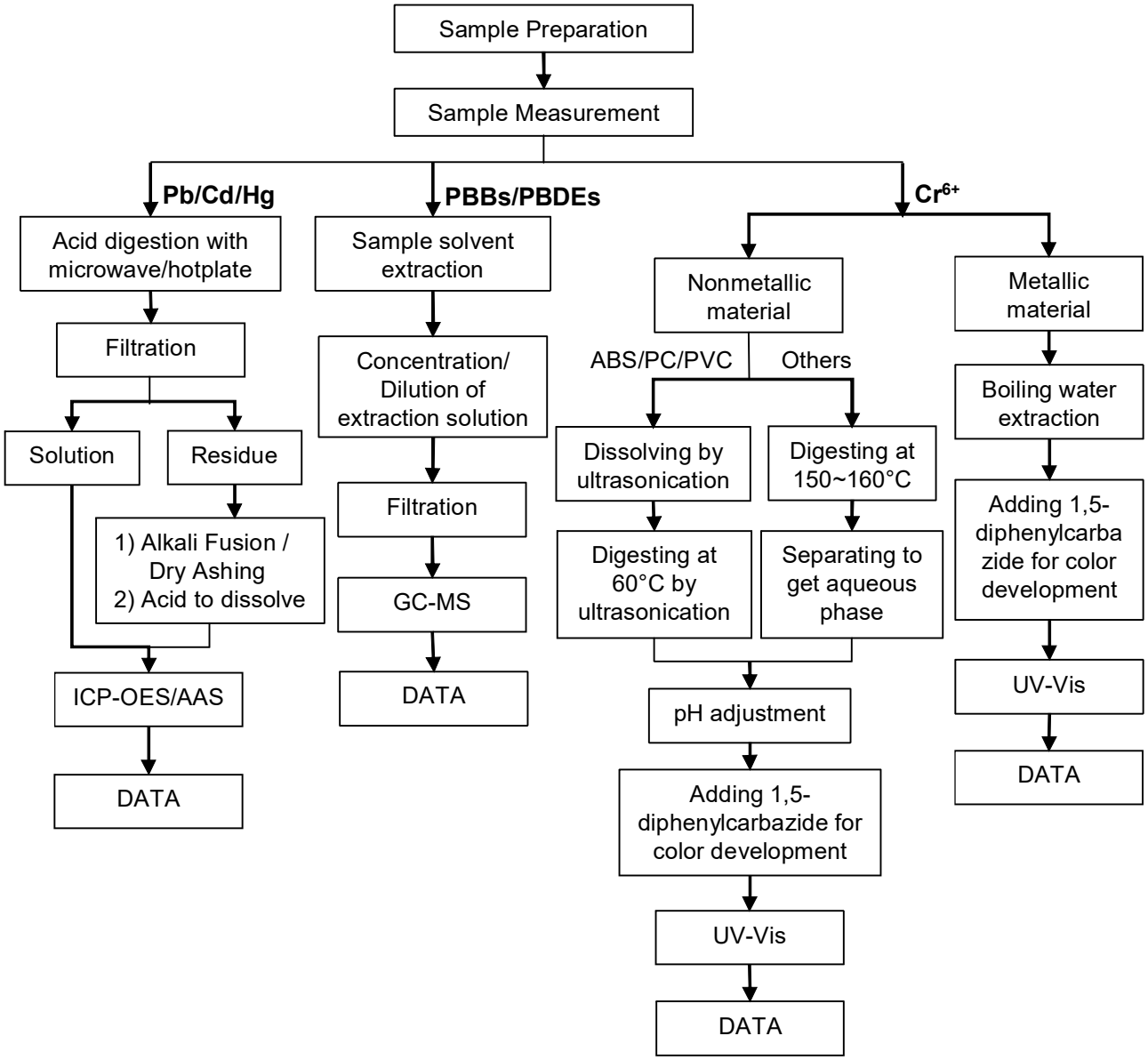
(3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.

ATTACHMENTS

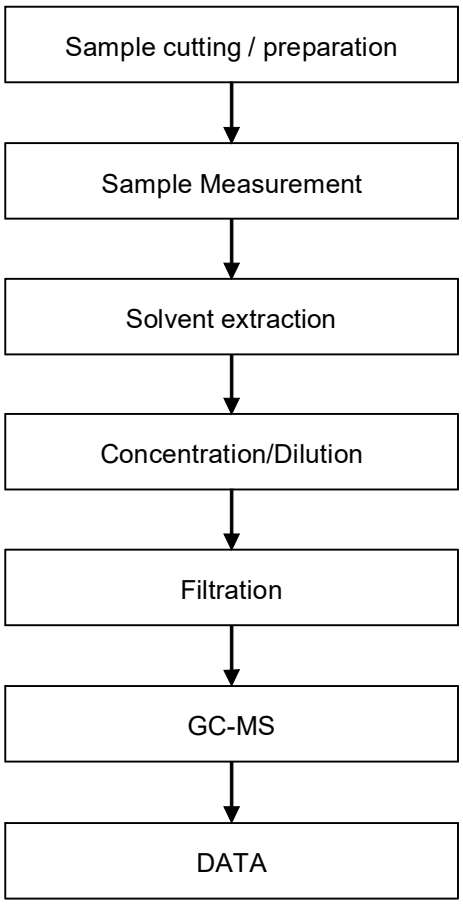
Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

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



ATTACHMENTS

Phthalates Testing Flow Chart



Sample photo:

SZX23-001927.002

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Test Report

Client Name : JIANGXI YOUZE NEW MATERIAL TECHNOLOGY CO., LTD

Client Address : ZONE A, LIANHUA INDUSTRIAL PARK, PINGXIANG CITY, JIANGXI PROVINCE, CHINA

Sample Name :	Black Coverlay
Model No. :	YZXC-B015
Client Ref. Info. :	YZXC-BB05、YZXC-BC05、YZXC-BC10、YZXC-BC12、YZXC-BC15、YZXC-BC50、YZXC-BD11、YZXC-B005、YZXC-B007、YZXC-B008、YZXC-B010、YZXC-B012、YZXC-B018、YZXC-B020、YZXC-B022、YZXC-B025、YZXC-B030、YZXC-B035、YZXC-B040、YZXC-B045、YZXC-B050、YZXC-B115、YZXC-B120、YZXC-B125、YZXC-B130、YZXC-B135、YZXC-B140、YZXC-B145、YZXC-B150、YZXC-B215、YZXC-B220、YZXC-B225、YZXC-B230、YZXC-B235、YZXC-B240、YZXC-B245、YZXC-B250、YZXC-B025GWA-Z、YZXC-B025-Z-P、HB1315、HB1325

The above sample(s) and information were provided by the client.

SGS Job No. :	RP23-001821 - SZ
Date of Sample Received :	09 Feb 2023
Testing Period :	09 Feb 2023 - 15 Feb 2023
Test Requested :	Selected test(s) as requested by the client.
Test Method(s) :	Please refer to next page(s).
Test Result(s) :	Please refer to next page(s).

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

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Approved Signatory

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Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SZX23-001927.002	Black film

Remarks :

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

Halogen

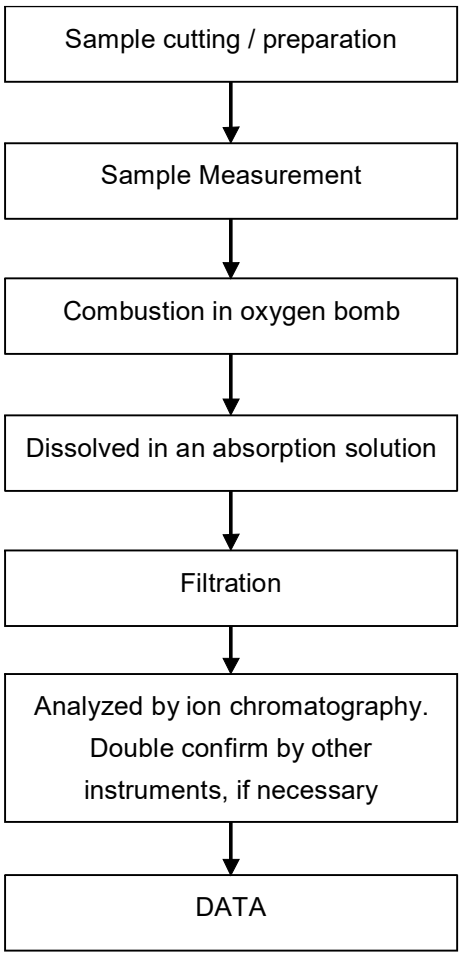
Test Method : With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit	MDL	002
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	484
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.

ATTACHMENTS

Halogen Testing Flow Chart



Sample photo:

SZX23-001927.002

SGS authenticate the photo on original report only

*** End of Report ***

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Test Report No. IQCT32HC1112587D1 Issued Date: 2022-11-15 Page 1 of 8

Applicant: INPAQ TECHNOLOGY (CHINA) CO., LTD

Address: Antai No 1 road,Anzhen town,Xishan Economic Development zone Wuxi,214105, Jiangsu, China

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

Sample Name: Ferrite

Model No.: NF-X-F9、F9L、F9H series

Sample Received Date: 2022-11-09

Test Period: 2022-11-09~2022-11-15

Test Requested: According to client's requirements, to determine the submitted samples.

Test Methods: Please refer to next page(s)

Test Result: Please refer to next page(s)

PONY TESTING INTERNATIONAL GROUP JIANGSU CO.,LTD. 谱尼测试集团江苏有限公司 PONY

Edited by: Sun Wanlin Checked by: Li Yang Approved by: Shi Baotian

Code: v4sa4h

Test Report No. IQCT32HC1112587D1 Issued Date：2022-11-15

1、RoHS 2.0

Test Methods：Refer to IEC 62321-5:2013, Determination of Pb and Cd by ICP-OES;
IEC 62321-4:2013+AMD1:2017, Determination of Hg by ICP-OES;
IEC 62321-7-2:2017, Determination of Non-metallic hexavalent chromium Cr(VI) by UV-VIS;
IEC 62321-6:2015, Determination of PBBs、PBDEs by GC-MS;
IEC 62321-8:2017, Determination of DBP、BBP、DIBP、DEHP by GC-MS

Test Result：

Test Item	Unit	MDL	Result	Limit
			1	
Lead (Pb)	mg/kg	2	N.D.	1000
Cadmium (Cd)	mg/kg	2	N.D.	100
Mercury (Hg)	mg/kg	2	N.D.	1000
Hexavalent Chromium (Cr(VI))	mg/kg	8	N.D.	1000
Sum of PBBs	mg/kg	---	N.D.	1000
Bromobiphenyl	mg/kg	5	N.D.	---
Dibromobiphenyl	mg/kg	5	N.D.	---
Tribromobiphenyl	mg/kg	5	N.D.	---
Tetrabromobiphenyl	mg/kg	5	N.D.	---
Pentabromobiphenyl	mg/kg	5	N.D.	---
Hexabromobiphenyl	mg/kg	5	N.D.	---
Heptabromobiphenyl	mg/kg	5	N.D.	---
Octabromobiphenyl	mg/kg	5	N.D.	---
Nonabromobiphenyl	mg/kg	5	N.D.	---
Decabromobiphenyl	mg/kg	5	N.D.	---
Sum of PBDEs	mg/kg	---	N.D.	1000
Bromodiphenyl ether	mg/kg	5	N.D.	---
Dibromodiphenyl ether	mg/kg	5	N.D.	---
Tribromodiphenyl ether	mg/kg	5	N.D.	---
Tetrabromodiphenyl ether	mg/kg	5	N.D.	---
Pentabromodiphenyl ether	mg/kg	5	N.D.	---
Hexabromodiphenyl ether	mg/kg	5	N.D.	---
Heptabromodiphenyl ether	mg/kg	5	N.D.	---

Octabromodiphenyl ether	mg/kg	5	N.D.	---
Nonabromodiphenyl ether	mg/kg	5	N.D.	---
Decabromodiphenyl ether	mg/kg	5	N.D.	---
Dibutyl phthalate(DBP)	mg/kg	50	N.D.	1000
Benzylbutyl phthalate(BBP)	mg/kg	50	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	1000
Bis(2-ethylhexyl)phthalate(DEHP)	mg/kg	50	N.D.	1000

Note：
(1) 1mg/kg = 1ppm= 0.0001%
(2) N.D. = Not Detected (＜MDL)
(3) MDL = Method Detection Limit
(4) Sample point position description:
1、Gray plastic sheet

End of this page

Pony Testing International Group Jiangsu Company Limited
Company Address: No.8, Jinfang Road, SIP, Suzhou, Jiangsu Tel：0512-62997900
Test Address: No.8, Jinfang Road, SIP, Suzhou, Jiangsu Fax：0512-68021475

2、Halogen

Test methods：Refer to BS EN 14582:2016, analysis was performed by Ion Chromatography

Test Result：

Test Item	Unit	MDL	Test Result	Limit
			1	
fluorine(F)	mg/kg	50	N.D.	---
chlorine(Cl)	mg/kg	50	N.D.	900
bromine(Br)	mg/kg	50	N.D.	900
iodine(I)	mg/kg	50	N.D.	---
chlorine(Cl)+bromine(Br)	mg/kg	---	N.D.	1500

Note：

(1) 1mg/kg = 1ppm= 0.0001%

(2) N.D. = Not Detected (＜MDL)

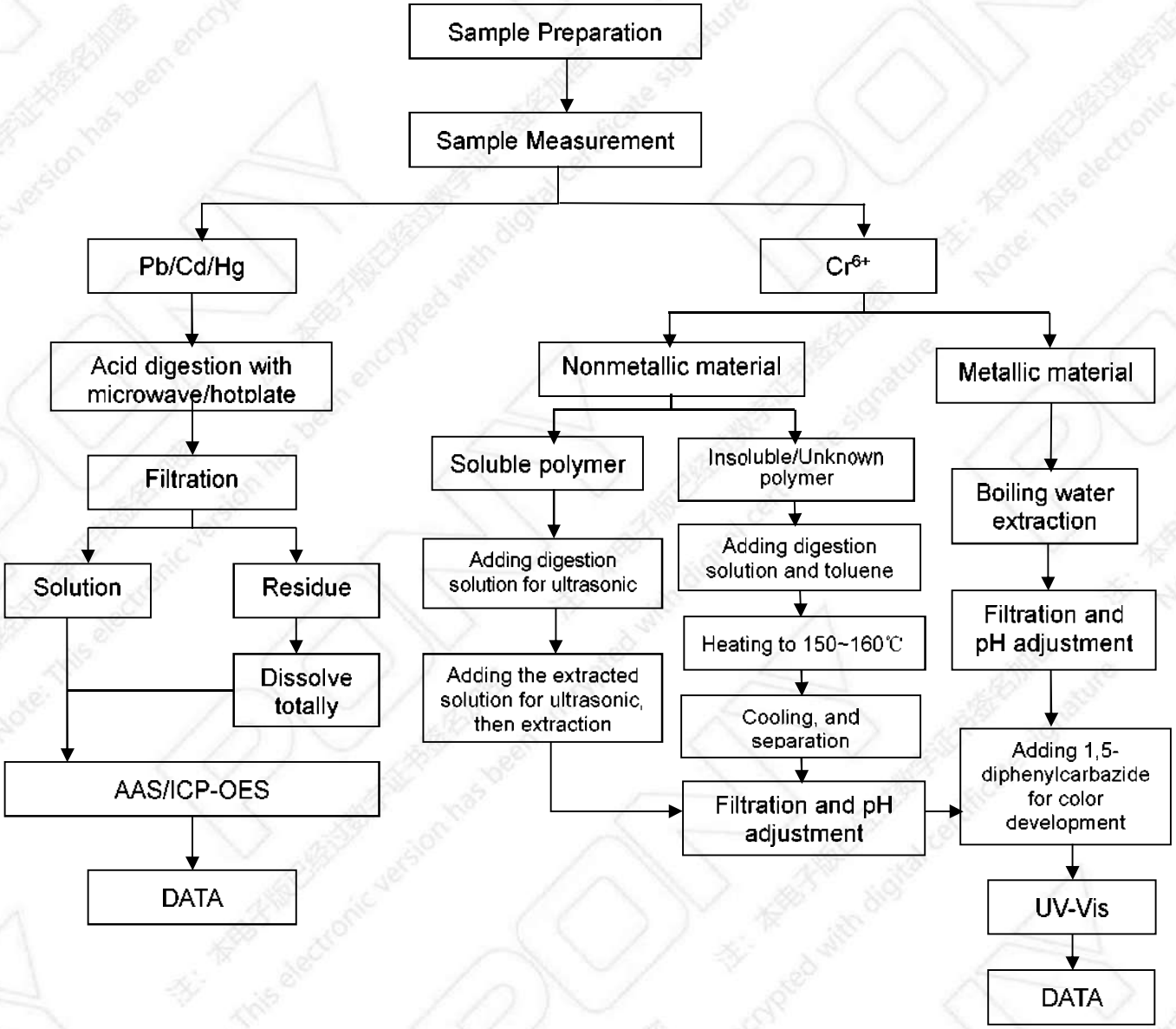
(3) MDL = Method Detection Limit

(4) Sample point position description:

1、Gray plastic sheet

End of this page

Test procedure for lead, cadmium, mercury and hexavalent chromium



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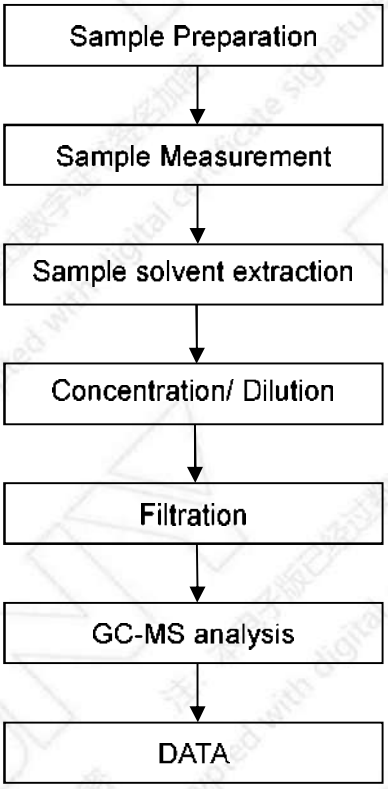
Test procedure for polybrominated biphenyls, polybrominated diphenyl ethers and phthalates



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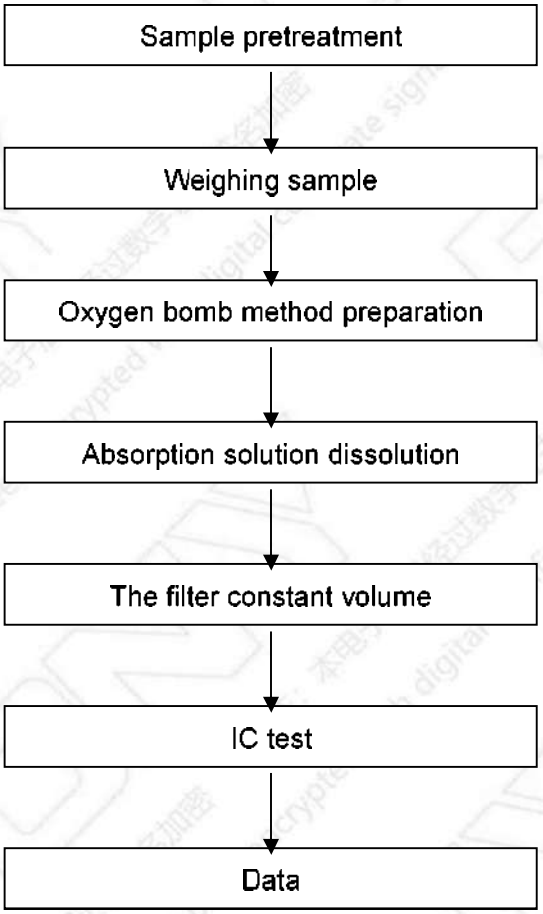
Test procedure for halogen



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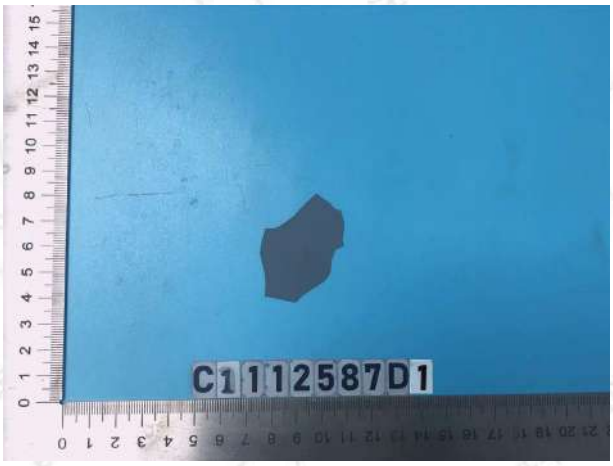
Sample No. & Photo：



Pony authenticate the photo on original report only

————End of Report————

Material Safety Data Sheet

This material safety data sheet (MSDS) is provided as a courtesy in response to a customer request. This product is not regulated under, and a MSDS is not required for this product by the OSHA Hazard Communication Standard (29 CFR 1910.1200) because, when used as recommended or under ordinary conditions, it should not present a health and safety hazard. However, use or processing of the product not in accordance with the product's recommendations or not under ordinary conditions may affect the performance of the product and may present potential health and safety hazards.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) ADHESIVE TRANSFER TAPE 467MP, 468MP, 9667MP, and 9668MP
MANUFACTURER: 3M
DIVISION: Industrial Adhesives and Tapes
ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 12/15/2003
Supercedes Date: 07/19/2001

Document Group: 10-8406-0

Product Use:
Specific Use: LAMINATION

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
ACRYLATE COPOLYMER ADHESIVE	NONE	100

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Roll of Tape
Odor, Color, Grade: Tan tape. Acrylate odor when unrolled.
General Physical Form: Solid
Immediate health, physical, and environmental hazards: This product, when used under reasonable conditions and in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
No health effects are expected.

Skin Contact:
No health effects are expected.

Inhalation:
No health effects are expected. This product may have a characteristic odor; however, no adverse health effects are anticipated.

Ingestion:
No health effects are expected.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: No need for first aid is anticipated.

Skin Contact: No need for first aid is anticipated.

Inhalation: No need for first aid is anticipated.

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	*No Data Available*
Flash Point	*Not Applicable*
Flammable Limits - LEL	*Not Applicable*
Flammable Limits - UEL	*Not Applicable*

5.2 EXTINGUISHING MEDIA
Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated. Not applicable.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
Avoid prolonged or repeated skin contact. This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2 STORAGE
Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Not applicable.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Avoid eye contact.

8.2.2 Skin Protection
Avoid prolonged or repeated skin contact. Gloves not normally required.

8.2.3 Respiratory Protection
Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

8.2.4 Prevention of Swallowing
Not applicable.

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Roll of Tape
Odor, Color, Grade:	Tan tape. Acrylate odor when unrolled.
General Physical Form:	Solid
Autoignition temperature	*No Data Available*
Flash Point	*Not Applicable*
Flammable Limits - LEL	*Not Applicable*
Flammable Limits - UEL	*Not Applicable*
Boiling point	*Not Applicable*
Vapor Density	*Not Applicable*
Vapor Pressure	*Not Applicable*
Specific Gravity	Approximately 0.85 g/ml
pH	*Not Applicable*
Melting point	*No Data Available*

Solubility in Water	Nil
Evaporation rate	*Not Applicable*
Volatile Organic Compounds	*No Data Available*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	*No Data Available*
Viscosity	*Not Applicable*

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

Hazardous Decomposition: Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not applicable.

CHEMICAL FATE INFORMATION

Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility.

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14:TRANSPORT INFORMATION

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:
Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification
Health: 0 **Flammability:** 1 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Reason for Reissue: The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

No revision information is available.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a

particular purpose and suitable for user's method of use or application.

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3M MSDSs are available at www.3M.com

惠州市富邦电子科技有限公司

物 质 安 全 资 料 表

Material Safety Data Sheet(MSDS)

1、物质和公司的标识：

产品名称：纯胶膜

公司名称和地址：惠州市富邦电子科技有限公司
广东省惠州市惠城区水口联合 37 区 8 号

公司电话： 0752-2398520 公司传真： 0752-2398521

2、成分信息：

序号 Serial number	成分 Composition	重量百分比（%） Quality percentage（%）	CAS 号 CAS NO.
1	丙烯酸共聚物 Acrylate Acid Resin	85±5	25133-97-5
2	丙烯酸 Acrylic acid	15±5	79-10-7

3、危险标

一般可燃性。基材易燃。

4

眼睛接触：

不会对眼睛造成刺激和伤害。万一不慎将碎屑弄入眼睛，请小心取出即可，避免揉搓。

吞食：

误食后可摧吐、并及时看医生。

5、防火措施：

隔绝媒介：

用普通泡沫灭火器、二氧化碳、干粉灭火器、沙土、自来水等。

着火措施：

燃烧时会产生二氧化碳、氮氧化物和水，并放出热。不完全燃烧时可能会产生有害的黑色烟雾。用普通泡沫灭火器、二氧化碳、干粉灭火器、沙土、自来水等来灭火。

燃烧时个人的预防措施：

清除附近易燃物，灭火。远离火场、通风。避免吸入不完全燃烧产生的烟雾。

6、释放物质：

溅出时个人预防措施

无溅出可能，没必要防护。

对环境的预防措施：

一般不会对环境产生不良影响。废弃的纯胶膜可作为普通垃圾处理。

溅出的清洗方法：

无此种可能。

7、操作和贮存：

可在普通室内环境条件下操作，无需特别防护和注意。

贮存：

应贮存于 35℃以下的室内、相对湿度不大于 65%，防火、防潮、防机械损伤等。

8、暴露控制和个人保护：

暴露控制：

暴露在室内时，仅注意产品吸潮。

个人保护：

无要求，但当心砸伤身体。

通风设施：

无要求。

呼吸器：

没必要。

防护手套：

为避免手指沾污纯胶膜，可考虑戴指套。但无需防护。

眼睛防护：

没有必要。

皮肤防护：

没有必要。

9、物理和化学性质：

外　观：　　无色至淡黄色半透明薄膜

在水中的溶解性：　不溶于水、但有吸水性

熔　点：　　没有提到

比　重：　　约 1.2~1.4

着火温度:　　约 600~800℃

挥发性:　　无挥发性

10、稳定性和反应性：

稳 定 性：　　相对较稳定、但长久贮存会缓慢发生固化

避免的环境：　　易燃物，避免长时间过热

不相容的材料：　　强碱性物质

物料安全性能表（MSDS）

一、制造商资料

制造商名称：宝应县精工绝缘材料有限公司	
制造商地址；宝应县柳堡镇芦村工业区	
咨询者姓名及电话：张海军　　13650302585	
电话；0514-88461163	传真：0514-88464318

二、材料分析

产品中（英）文名称：聚酰亚胺薄膜（PI 膜）CAS:25036-53-7　　100%	
材料分析：　　聚酰亚胺	
组成	聚酰亚胺酸
薄膜厚度	0.025-0.25

三、物理及化学特性

外观：透明膜		颜色：琥珀色
气味：无气味		绝缘等级：H
融点		无
活性和稳定性	有机溶剂	不溶
	有害燃烧物	400 报氏度时，主要有害物是碳

四、危险识别和申明

1.可吸入性：膜状态下，无可能吸入的途径。

2.作为一种聚合物，我们建议处理基垃圾时把它当做有害物质来处理。

3.皮肤接触：接触无过敏现象

4.眼睛接触：膜状态下，眼睛无可能接触的途径。

5.误服：膜状态下，无可能误眼的途径。

五、应急措施

1.可吸入性：膜状态下，无可能吸入的途径。

2.皮肤接触：处理完毕后用肥皂和水清洗。如确实发生过敏，请咨询医生。

3.眼睛接触：用水冲洗眼睛。如确实发生过敏，请咨询医生。

4.误服：膜状态下，无可能误服的途径。

六、消防措施----燃烧性能

1.无火灾和爆炸危险

2.可燃特性为自熄灭

3.在空气中不燃烧，只有在 100%氧气条件下才能燃烧

4.处理过程中有产生静电的危险，移除其包装材料时应采取防静电措施。

七、灭火物质

水、泡沫、干料、二氧化碳

八、特别的灭火措施

不需要

九、操作、储存和运输

1. 操作完毕，请彻底清洗

2. 远离可燃物保存

3. 运输无特殊要求

4. 危险等级：无

十、暴露控制和个人防护
1.200 摄氏度下操作，必须采用适当的通风措施
2. 如果少量的产品，过热条件下，必须有正常的空气循环系统
3. 总之，通风系统是否需要取决于产品用量，操作温度和操作时间
十一、废弃物处理
垃圾填埋场和焚烧炉的设置必须符合国家和地方的相关法规

深圳市创达华岳科技有限公司

材料安全数据表(MSDS)

第1节-化学产品和公司识别

产品名称	电解镍金/化学镍金
型号。	
制造商或供应商的联系人	深圳市创达华岳科技有限公司
	中国广东省深圳市宝安区浪厦松岗第三工业区。
紧急电话/传真	0755-81734616/0755-81734662

第2节-成分纯材料的组成/信息

产品名称	黄金 镍
同义词	au/ni
化学文摘社编号	casno: 镍7440-02-0 casno: 金7440-57-5
化学成分百分比	镍：95% 黄金：5%
危险物质	
危险物质	浓度或浓度范围(单位：ppm)
铅及其化合物	≤100
镉及其化合物	≤5
汞及其化合物	≤500
卤素	克≤450 ≤450或Cl+Br≤900
15SVHC物质	禁止使用

第3节----危险识别

重大危害效应	健康危险警告	无
	环境影响	根据有关废物的法律法规的要求。 可烧
	物理和化学危害	理化性能稳定，且不易降解。 未经授权不得掩埋。
	具体的危害	无
主要症状	无	
危险类别	大气	

第4节----急救措施

不同暴露方式的急救方法	吸入	呼吸到一个新鲜空气以恒定速度进入的区域
	皮肤接触	无
	眼睛接触	无
	食入	不该吃
最重要的症状和危害效应	无	
第一援助个人保护	空气对流	
医生须知	氧气摄取	

第5节-灭火措施

合适的熄灭媒体	将军
在救火时可能会遇到特殊的危险	避免吸入气体
特殊扑灭程序	无
消防员的特殊防护设备	呼吸面罩

第6节-意外释放措施

个人保护	无
环境预防措施	不允许埋葬
清理的方法	根据有关废物的法律法规的要求。

第7节-处理和储存

处理预防措施	避免高温和火灾暴露。
储存注意事项	温度23° ±5°，湿度40%-70%。 储存在密封条件下

第8节----接触控制/个人保护

工程控制	没有	
控制参数	平均每8小时允许浓度	没有
	最大允许浓度	没有
	生物指标	没有
个人防护措施	呼吸参数	没有
	手保护	没有

	眼睛保护	没有
	皮肤和身体保护	没有
卫生措施	没有	

第9节-物理和化学性质

物质状态	很结实	形状	巨大的
颜色	黄色；灰色	气味	没有
PH值	没有	沸点/改变	纳
分解温度	纳	闪点	纳
自燃温度	纳	接触限值	纳
蒸汽压力	纳	蒸汽密度	纳
密度	纳	溶解性	纳

第10节-稳定性和反应性

稳定	很稳定
特殊情况下双鱼座危险反应	高温分解或燃烧产生的气体会对人体神经系统造成损害
避免的条件	没有
避免的材料	避免存放在酸性环境中
危险分解产品	没有

第11节-毒性数据

危险	纳
地方效应	纳
敏化效果	纳
慢毒性或长期毒性	纳
特殊效果	纳

第12节----生态信息

可能的环境影响	不可降解；禁止填埋

第13款----处置

处置考虑	符合废物相关法律法规要求的合格专业公司处置。

第14节----运输信息

国际运输条例	纳
联合国编号	纳
国内运输条例	无
特殊运输工具及注释	密封；无渗漏、无超支

第15节----监管信息

适用条例	遵循欧盟REACH法规的相关要求

第16节----补充资料

参考资料	有毒化学物质管理的标签和材料安全措施，环境部，毒性0960095329
已经准备好了	深圳市创达华岳科技有限公司
	中国广东省深圳市宝安区浪厦松岗第三工业区。
窃听器	标题：　　质量经理
	全名：吕亚华
编写日期	2020/4/15

深圳市创达华跃科技有限公司

物质全料表(msds)

一，物品和厂商资料

中英文物品名称：	电镀镍金/化学镍金
物品编号：	
制造商或供应商名称，地址及电话：	深圳市创达华跃科技有限公司
	深圳市宝安区松岗朗下第三工业区0755-81734616
紧急联络电话/传真电话：	0755-81734616/0755-81734662

二，成分表辨别资料

纯物质：

中英文名称	金/黄金 镍/尼克尔
同义名称：	au/ni
化学文摘社登记号码（casno。）	化学文摘社编号：Ni7440-02-0 化学文摘社：Au7440-57-5
危害物质成分（成分百分比）：	Ni：95%Au：5%

危害物质：

危害物质	浓度或浓度范围(单位：ppm)
铅及其化合物pb	≤100
镉及其化合物cd	≤5
汞及其化合物Hg	≤500
卤素	氯Cl≤450溴Br≤450或Cl+Br900
SVHC15种物质	禁止使用

三，危害辨别资料

最重要危害效应：	健康危害效应：	无
	环境影响：	要按照废弃物处理及清扫法律法规处理，可燃烧
	物理性及化学性危害：	物理化学性能稳定，不易降解，不得擅自填埋
	特殊危害：	无
主要症状：	无	
物品危害分类：	大气	

四，急救措施

不同暴露途径之急救方法：	吸入：	到空气流通处换气
	皮肤接触：	无。
	眼睛接触：	无。
	食入：	不能食
最重要的症状及危害效应：	无	
就急救人员之防护：	对流换气	
对医师之提示：	吸氧	

五，灭火措施

适用灭火剂：	通用
灭火时可能遭遇之特殊危害：	避免分解气体吸入
特殊灭火程序：	无

消防人员之特殊防护装备：	防毒面具

六，泄露处理方法

个人应注意事项：	无
环境注意事项：	不可填埋
清理方法：	要按废弃物处理及清扫法律法规处理

七，安全处置与储存方法

处置：	避免高温和火源接触。
储存：	温度23° ±5° ，温度40-70%.密封储存

八，暴露预防措施

工程控制：	无	
控制参数：	八小时日时常平均容许浓度/短时量平均容许浓度/最高容许浓度	无
	生物指标：	无
个人防护措施：	呼吸指标：	无
	手部防护：	无
	眼睛防护：	无
	皮肤及身体防护：	无
卫生措施：	无	

九，物理及化学性质

物质状态：	固体	形状：	块状
颜色：	黄色，灰色	气味：	无。
ph值：	无	沸点/沸点范围：	/
分解温度：	/	闪火点：	/
自然温度：	/	爆炸界限：	/
蒸气压：	/	蒸气密度：	/
密度：	/	溶解度	/

十，安全性及反应性

安全性：	很稳定。
特殊情况下可能之危害反应；	高温或燃烧分解气体对人体神经系统的损害。
应避免之状况；	无
应避免之物质：	避免存放酸性环境中。
危害分解物：	无

十一，毒性资料

危害性：	/
局部效应：	/
致敏效应：	/
慢毒性或长期毒性：	/
特殊效应：	/

十二，生态资料

可能之环境影响/环境流步：	不降解，禁填埋。

十三，废弃物处理方法

废弃处置方法：	按废弃物处理及清扫法律法规要求送专业资质公司处置。

十四，运送资料

国际运送规定：	/
联合国编号：	/
国内运送规定：	无
特殊运送方法及注意事项：	密封，不泄露

十五，法规资料

适用法规：	遵循欧盟reach法规相关要求。

十六，其它资料

参考文献：	毒性化学物质标示及物质安全管理办法，环署毒字号0960095329号
制表单位：	名称：深圳市创达华跃科技有限公司 地址/电话：深圳市宝安区松岗镇朗下第三工业区
制表人：	职称：品保经理 姓名：吕亚华
制表日期：	2020/4/15

Allstar Tech（Zhongshan）Co.,Ltd.
中 山 新 高 电 子 材 料 股 份 有 限 公 司

地址: 中国广东省中山市火炬开发区沿江西一路 6 号

Factory Address: Yanjiang West 1,No.6 Road, Keji Avenue, Torch Hi-tech Industrial Development Zone, Zhongshan City, Guangdong, China

电话（TEL）：+86-760-23696688　　传真（FAX）：+86-760-23695181

通用信息

物质安全手册 MSDS

无胶双面覆铜板 Double Side 2-Layer

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无胶双面覆铜板 **Double Side 2-Layer**　　MS2-22-07

1　产品与公司信息 Product and Company Information

品　名 Product Name:　AS2L-AD

厂　商 Manufacturer:　中山新高电子材料股份有限公司 Allstar Tech (Zhongshan) Co.,Ltd.

地　址 Factory Address: 中国广东省中山市火炬开发区沿江西一路 6 号
Yanjiang West 1,No.6 Road, Keji Avenue, Torch Hi-tech Industrial Development Zone, Zhongshan City, Guangdong, China

24 小时紧急电话 Energency Telephone (24 hr):　+86-760-23696688

一般安规信息 General Safety Information:　+86-760-23696688

2　化学成分 Composition of Chemical

名称 Name:	重量百分比 Weight%	CAS.Number
1. 聚酰亚胺 PI Film(12.5~150um)	5~57%	62929-02-6
2. 铜箔 Copper(9~70um)	43~95%	7440-50-8

本产品不含 RoHS 所规定的禁用物质，符合无卤素要求。

This product does not contain reportable hazardous ingredients as defined by RoHS and meets the requirements of halogen free.

3　物理及化学性质 Physical & Chemical Properties

物质状态 **Physical State**:	固态 Solid
形状 **Appearance**:	卷状 Film
颜色 **Color**:	铜色 Cu
沸点 **Boiling Point**:	N/A
分解温度 Melting Point:	400℃
闪火点 Flash Point:	N/A
溶解度 Water Solubility:	N/A
PH:	N/A
蒸汽压 Vapor Pressure:	N/A
蒸汽密度 **Vapor Density**:	N/A
爆炸界限 **Explosion Limit**:	N/A
自燃温度 **Autoignition Temperature**:	N/A

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4　稳定性及反应性 Stability & Reactivity

稳定性: 温度 30℃相对湿度 70% 的储存条件下保持稳定。
Stability: Stable below 30℃, and relative humidity lower than 70% conditions of storage three months.

反应性: 在温度 30℃相对湿度 70% 的搬用、储存、生产条件下未参加反应。
Reactivity: Not reactive under 30℃, and relative humidity lower than 70% conditions of handling, storage and processing.

应避免之条件: 材料温度高于 400℃将会产生分解。
Conditions to avoid: Material will decompose as a function of over 400℃.

应避免之物质: 视潮湿状况而定。
Materials to avoid: Be affected with damp.

有害分解物: 在一般生产条件下未有有害分解物产生。
Hazardous decompostiong: None at normal processing temperatures.

5　有害物质信息 Toxic Properties

急毒性 Acute Product Toxicity:	N/A
眼睛危害 Eye Irritation:	N/A
局部过敏 Partial irritation:	N/A
皮肤危害量 Dermal LD50:	N/A
吸入危害量 Oral LD50:	N/A
食入危害量 Inhalation LD50:	N/A

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6　注意事项 Warning

概　　要: 生产过程中所产生的微尘可能对皮肤眼睛造成过敏、刺激或危害，由燃烧所带来的烟尘同样可能造成皮肤、眼睛、呼吸道产生危害。

OVERVIEW: Dust from trimming, drilling and milling operations may cause irritation or injury to the eye due to mechanical action. Fire creates a light smoke, which may cause eye, shin and respiratory tract irritation.

潜在健康危害 potential health effects:

眼睛: 生产过程所产生的微尘可能对眼睛产生刺激或危害。
Eyes: Dust from trimming, drilling and milling operations may cause irritation or injury due to mechanical action.

皮肤: 生产过程所产生的微尘可能造成皮肤过敏。
Skin: Powder from trimming, drilling and milling operations may cause skin irritation.

食入: 无明显症状
Ingestion: Not acutely toxic.

吸入: 微尘可能造成呼吸道感染。
Inhalation: Dust may be irritating to the respiratory tract.

致癌物质 Chroinc/Carcinogenicity:
NTP: N/A
OSHA: N/A
IARC: N/A
医学制约: 此产品无已知的健康影响。
Medical Restrictions: There are no known human health effects aggravated to this product.

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7　急救措施 First Aid Instruction of Chemical Contact

眼睛:　清水冲洗 15 分钟，如果症状持续，立刻寻求医疗帮助。

Eyes: For dust generated during trimming, drilling and milling operations, remove contact lenses at once. Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation persists, seek medical attention.

皮肤:　用肥皂和凉水清洗净皮肤上的残留。

Skin:　Wash with soap and cold water to prevent copper dust from entering skin pores.

食入:　无明显症状

Ingestion:　Not acutely toxic.

吸入:　呼吸道感染请寻求医疗帮助。

Inhalation:　Dust - if breathing becomes impaired, seek medical attention.

8 灭火措施 Fire Fighting Measures

消防:　应具备完善的防护面具和防护服装。

Firefighting: Approved pressure demand breathing apparatus and protective clothing should be used for all fires

灭火的媒介:　喷水和泡沫，水是最佳的灭火媒介，一般不推荐二氧化碳和干燥化学制品。

Extinguishing Media: Water spray and foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition.

有害燃烧物:　一氧化碳、氮氧化物、浓烟和微尘。

Hazardous Combustion Products: Carbon monoxide, nitrogen oxides, dense smoke and soot can be released while burning.

闪火点 Flash Point:　N/A

最低燃烧极限 Lower Flammable Limit:　N/A

最大燃烧极限 Upper Flammable Limit:　N/A

燃烧条件:　持续的火源。

Conditions Of　Flammability: Requires continuous flame source to ignite.

静电:　静电对产品未有较大影响,但静电对生产操作过程中所产生的微尘较为敏感。

Satatic Discharge: The material is not sensitive to static discharge. Dust generated during trimming, drilling and milling operations may be sensitive to static discharge.

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9　净化说明 Cleaning Instruction

常规 ： 注意！ 请勿在生产过程中产生大量的微尘，否则采用相关回收设备避免该情况的产生。

General: Warning! During trimming, drilling and milling operations do not create dust cloud. Use collection methods such as vacuum and place into proper container for disposal or recovery.

10　处理办法 Handling Instruction

处理:　采用完善的工业清洁设施，在生产操作过程中尽量减小微尘的吸入量，并充分透气。

Handling: Use good industrial hygiene practices. During trimming, drilling and milling operations minimize inhalation of dusts and contact with skin and eyes. Provide adequate ventilation.

储存:　应避开潮湿、热源。

Stage: Store in a dry place away from moisture, excessive heat and sources.

11　生产安全事项 Operational Safety Instruction

建议工作场所采用完善的除尘设备以及相关的防护措施避免与微尘的接触。

A continuous supply of fresh air to the milling operations workplace together with removal of process dust through exhaust systems is recommended. Processing dust may be a fire hazard; remove periodically from exhaust hoods, ductwork and other surfaces using appropriate personal protection.

个人防护 Personal Protection:

眼睛/脸部:　配戴防护眼镜和防护面具。

Eye/Face:　Wear safety glasses with side shields or chemical goggles during trimming, drilling and milling operations.

呼吸:　如相关微尘不能及时控制,请配戴空气呼吸器。

Pespiratory:　When trimming, drilling and milling dusts are not adequately controlled, use respirator approved for protection from dust.

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12　环境影响 Environmental Effect

常规:　无相关重大的环境影响.

General:　Not expected to present any significant ecological problems.

13　废弃物处理方法 Dispersion Information

有毒废物 Hazardous Waste:　N/A

废物处理:　铜箔可回收利用，其他物质处理请符合当地的法律法规，相关废弃物请确认与归类。

Waste disposal: Recycling is encouraged, i. e. copper portion of laminate. Landfill or incinerate in accordance with state and local requirements. Collected dusts from multi-step manufacturing operations should be tested to determine waste classification

14　运输信息 Transformation Information

危险级别 Dot Hazard Class:　N/A

运输名 Proper Shipping Name:　N/A

标示号 Identification Number:　N/A

15　法规 Regulation

危险品法令(TSCA): 遵守 USEPA 有毒物质控制法案的化学物质存放要求。

TSCA Status:　This product complies with the Chemical Substance Inventory requirements of the USEPA Toxic Substances Control Act.

车间危险品管理系统(WHMIS)：非受控产品。

WHMIS Classification:　Not a controlled product.

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16　其他数据 Reservation

制作单位 Prepared By: 品保部 QA Department

对上述数据已力求准确，各项数据与数据仅供参考，用户请依应用需求，自行判断其可用性。

The above information and recommendations are believed accurate and reliable. Additional safety precautions may be required as it is not possible to anticipate all conditions of use. Allstar Tech.(Zhongshan) Co.,Ltd makes no warranty either express or implied including merchant ability and fitness.

客户责任: 每个用户应该清楚和理解该手册信息以及相关的危害通识标准(HCS)。

User Responsibility:　Each user should read and understand this information and applicable Hazard Communication Standards and Regulations.

江西有泽新材料科技有限公司

Jiangxi youze New Material Technology Co., Ltd

公司地址：江西省萍乡市莲花县工业园A区江西有泽新材料科技有限公司

电话：0799-2085088　　传真：0799-2085098

物质安全手册 MSDS

江西有泽新材料科技有限公司

Jiangxi youze New Material Technology Co., Ltd

公司地址：江西省萍乡市莲花县工业园 A 区江西有泽新材料科技有限公司

电话：0799-2085088　　传真：0799-2085098

黑色覆盖膜 Black halogen free Cover-lay　　Mar-08-2022

1. 产品与公司信息 Chemical Product and Company Information

品 名 Product Name:

YZXC-B015

YZXC-BB05、YZXC-BC05、YZXC-BC10、YZXC-BC12、
YZXC-BC50、YZXC-BC15、YZXC-B005、YZXC-B007、
YZXC-B008、YZXC-B010、YZXC-B018、YZXC-B020、
YZXC-B022、YZXC-B025、YZXC-B030、YZXC-B035、
YZXC-B040、YZXC-B045、YZXC-B050、YZXC-B115、
YZXC-B120、YZXC-B125、YZXC-B130、YZXC-B135、
YZXC-B140、YZXC-B145、YZXC-B150、YZXC-B215、
YZXC-B220、YZXC-B225、YZXC-B230、YZXC-B235、
YZXC-B240、YZXC-B245、YZXC-B250、YZXC-B025GWA-Z

厂 商 Manufacturer: 江西有泽新材料科技有限公司

地 址 Factory Address: 江西省萍乡市莲花县工业园 A 区江西有泽新材料科技有限公司
Jiangxi Youze New Material Technology Co., Ltd.
Zone A, Lianhua Industrial Park, Pingxiang City, Jiangxi Province

24 小时紧急电话 Energency Telephone (24 hr): 0799-2085088

一般安规信息 General Safety Information: 0799-2085098

2.化学成分

此类产品主要是将 PI 膜利用接着剂压合在一起。此产品不包含 OSHA 危险通信标准中规定的危害成份(29CFR1910, 1200)。

名称 Name:	重量百分比 Weight%	CAS. Number
聚酰亚胺膜 PI Film	40.2~45.5%	62929-02-6
环氧树脂接着剂 Epoxy Adhesive	59.8~55.5 %	—

No.	成分 Composition	重量百分比 Weight (%)	CAS.
1	双酚A环氧树脂 Bisphenol-A type epoxy resin	40.70	61788-97-4
2	氢氧化铝 ATH	15.98	21645-51-2
3	阻燃剂 Flame retardant	11.54	225789-38-8
4	丁腈橡胶 Nitrite Butadiene Rubber	28.04	9003-18-3
5	二氨基二苯砜 DDS	3.04	80-08-0
6	双氰胺 DICY	0.70	461-58-5

本产品不含 RoHS 所规定的禁用物质

This product does not contain report-able hazardous ingredients as defined by RoHS.

3.物理及化学性质 Physical & Chemical Properties

物质状态 Physical State:	固态 Solid
形状 Appearance:	膜状 Film
颜色 Color:	黑色 Black
沸点 Boiling Point:	N/A
分解温度 Melting Point:	N/A
闪火点 Flash Point:	N/A
溶解度 Water Solubility:	N/A
PH:	N/A
蒸汽压 Vapor Pressure:	N/A
比重 Specific Gravity:	>1
爆炸界限:	N/A
自然温度:	N/A

4.稳定性及反应性 Stability & Reactivity

稳定性：温度 10℃以下，相对湿度 70%以下的条件下保持稳定储存三个月

Stability: Stable below 10℃, and relative humidity lower than 70% conditions of storage three months.

反应性：在温度 30℃以下，相对湿度 70%以下的搬用、储存、生产条件下未参加反应

Reactivity: Not reactive under 30℃, and relative humidity lower than 70% conditions of handling, storage and processing.

应避免之条件：材料温度高于 125℃将会产生分解

Conditions to avoid: Material is attacked by oxidizing agents and will decompose as a function of time over 125℃.

应避免之物质：视潮湿状况而定 Materials to avoid: Be affected with damp.

有害分解物：在一般生產條件下未有有害分解物產生.

Hazardous decompostiong: None at normal processing temperatures.

5.有害物质信息 Toxic Properties

急毒性 Acute Product Toxicity:	N/A
眼睛危害 Eye Irritation:	N/A
局部过敏 Partial irritation:	N/A
皮肤危害量 Dermal LD50:	N/A
吸入危害量 Oral LD50:	N/A
食入危害量 Inhalation LD50:	N/A

6.注意事项 Warning

概要：生产过程中所产生的微尘可能对皮肤眼睛造成过敏、刺激或危害,由燃烧所带来的烟尘同样可能造成皮肤、眼睛、呼吸道产生危害.

Emergency overview: Dust from trimming, drilling and milling operations may cause irritation or injury to the eye due to mechanical action. Fire creates a dense smoke, which may cause eye, shin and respiratory tract irritation.

潜在健康危害 potential health effects:

眼睛：生产过程所产生的微尘可能对眼睛产生刺激或危害.

Eyes: Dust from trimming, drilling and milling operations may cause irritation or injury due to mechanical action.

皮肤：生产过程所产生的微尘可能造成皮肤过敏.

Skin: Powder from trimming, drilling and milling operations may cause skin irritation.

食入：无明显症状 Ingestion: Not acutely toxic.

吸入：微尘可能造成呼吸道感染.

Inhalation: Dust may be irritating to the respiratory tract.

致癌物质 carcinogen

NTP: N/A

OSHA: N/A

IARC: N/A

医学制约：此产品无已知的健康影响

Medical Restrictions: There are no known human health effects aggravated to this product.

7.急救措施 First Aid Instruction of Chemical Contact

眼睛：清水冲洗 15 分钟,如果症状持续,立刻寻求医疗帮助

Eyes: For dust generated during trimming, drilling and milling operations, remove contact lenses at once. Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation persists, seek medical attention.

皮肤：用肥皂和凉水清洗净皮肤上的残留

Skin: Wash with soap and cold water to prevent copper dust from entering skin pores.

食入：N/A

Ingestion: Not probable

吸入：呼吸道感染请寻求医疗帮助

Inhalation: Dust - if breathing becomes impaired, seek medical attention.

8.灭火措施 Fire Fighting Measures

消防：应具备完善的防护面具和防护服装.

Firefighting: Approved pressure demand breathing apparatus and protective clothing should be used for all fires

灭火的媒介：喷水和泡沫,水是最佳的灭火媒介，一般不推荐二氧化碳和干燥化学制品

Extinguishing Media: Water spray and foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition.

有害燃烧物：甲醛、一氧化碳、浓烟和微尘

Hazardous Combustion Products: Formaldehyde, carbon monoxide, dense smoke and soot can be released while burning.

闪火点 Flash Point: N/A

最低燃烧极限 Lower Flammable Limit: N/A

最大燃烧极限 Upper Flammable Limit: N/A

燃烧条件：持续的火源

Conditions Of Flammability: Requires continuous flame source to ignite.

静电：静电对产品未有较大影响,但静电对生产操作过程中所产生的微尘较为敏感

Satatic Discharge: The material is not sensitive to static discharge. Dust generated during trimming, drilling and milling operations may be sensitive to static discharge.

9.净化说明 Cleaning Instruction

常规:注意!请勿在生产过程中长产生大量的微尘,否则采用相关回收设备避免该情况的产生

General: Warning! During trimming, drilling and milling operations do not create dust cloud. Use collection methods such as vacuum and place into proper container for disposal or recovery.

10.处理办法 Handling Instruction

处理：采用完善的工业清洁设施,在生产操作过程中尽量减小微尘的吸入量,并充分透气

Handling: Use good industrial hygiene practices. During trimming, drilling and milling operations minimize inhalation of dusts and contact with skin and eyes. Provide adequate ventilation.

储存：应避开潮湿、热源

Stage: Store in a dry place away from moisture, excessive heat and sources.

11. 生产安全事项 Operational Safety Instruction

建议工作场所采用完善的除尘设备以及相关的防护措施避免与微尘的接触并定期清除排气罩，管道等，并注意适当的个人防护.

A continuous supply of fresh air to the milling operations workplace together with removal of process dust through exhaust systems is recommended. Processing dust may be a fire hazard; remove periodically from exhaust hoods, ductwork and other surfaces using appropriate personal protection.

个人防护 Personal Protection:

眼睛/脸部： 配戴防护眼镜和防护面具

Eye/Face: Wear safety glasses with side shields or chemical goggles during trimming, drilling and milling operations.

呼吸： 如相关微尘不能及时控制，请配戴空气呼吸器

Pespiratory: When trimming, drilling and milling dusts are not adequately controlled, use respirator approved for protection from dust.

12. 环境影响 Environmental Effect

常规： 无相关重大的环境影响.

General: Not expected to present any significant ecological problems.

13. 废弃物处理方法 Dispersion Information

有毒废物 Hazardous Waste: N/A

废物处理：请付合当地的法律法规，相关废弃物请确认与归类

Waste disposal: Recycling is encouraged, i. e. release paper portion of Coverlay. Landfill or incinerate in accordance with state and local requirements. Collected dusts from multi-step manufacturing

14. 运输信息 Transformation Information

危险级别 Dot Hazard Class: N/A

运输名 Proper Shipping Name: N/A

标示号 Identification Number: N/A

15. 法规 Regulation

危险品法令(TSCA)：遵守 USEPA 有毒物质控制法案的化学物质存放要求。

TSCA Status: This product complies with the Chemical Substance Inventory requirements of the USEPA Toxic Substances Control Act.

车间危险品管理系统(WHMIS) ：非受控产品。

WHMIS Classification: Not a controlled product.

16. 其他资料 Reservation

制作单位 Prepared By: 技术部/品保部 Tech. and QA Department
更新日期：2022-09-01

对上述资料已力求准确,各项资料与资料仅供参考,使用者请依应用需求,自行判断其可用性.
The above information and recommendations are believed accurate and reliable. Additional safety precautions may be required as it is not possible to anticipate all conditions of use. JIANGXI YOUZE CORPORATION makes no warranty either express or implied including merchant ability and fitness.

客户责任：每个用户应该清楚和理解该手册信息以及相关的危害通识标准(HCS).
User Responsibility: Each user should read and understand this information and applicable Hazard Communication Standards and Regulations.

物質安全資料表

MATERIALS SAFETY DATA SHEET

1. 品及廠商資料 PRODUCT AND COMPANY INDIFICATION

品名稱:Ni-Cu-Zn Ferrite Calcined Powder
物品編號:

供應商名稱:禾邦電子（中國）有限公司

商標:

2. 成分/組成信息 COMPOSITION/INFORMATION ON INGREDIENTS

Ni-Cu-Zn Ferrite (Nickel copper zinc ferrite, Nickel copper zinc iron oxide)

Formula : (Ni0.4Cu0.2Zn0.4Co0.01O)・Fe2O3 (approximation)

CAS Registry Number : No Data

Hazardous Ingredients : Nickel and its compounds

Compositions : minmum 97%

Main Compositions by Analytical Elements (This does not mean raw materials nor mixture) :

Oxides(Analytical formula)	mass%	CAS No.	Elements(Symbol)	mass%
Iron oxide (Fe2O3)	< 67	1309-37-1	Iron (Fe)	< 47
Nickel oxide (NiO)	< 15	1313-99-1	Nickel (Ni)	< 12
Copper oxide (CuO)	< 8	1317-38-0	Copper (Cu)	< 6
Zinc oxide (ZnO)	< 15	1314-13-2	Zinc (Zn)	< 12
Cobalt oxide(CoO)	< 0.3	1308-06-1	Cobalt(Co)	< 0.3
-	-	-	Oxygen (O)	balance

Other Known Microelements for Environmental Substances and Hazardous Impurities :

Substance Group	Elements(Symbol)	ppm
Lead and lead compounds	Lead (Pb)	Non use(< 100)
Cadmium and cadmium compound	Cadmium (Cd)	Non use(< 5)
Mercury and mercury compounds	Mercury (Hg)	Non use(< 20)
Hexavalent Chromium compounds	Hexavalent Chromium (Cr6+)	Non use(< 20)
Total Chromium compounds	Chromium (Cr)	< 5000 (Impurity)
Brominated organic compounds	PBBs , PBDEs	Non use(< 20)

3. 危險性 HAZARDS IDENTIFICAYION

嚴重危害及效應	健康危害效應:沒有特殊危險 Health harm effect: None
	環境影響:無法在自然界中被生物分解 Environment effect: Can not be decomposed by nature
	物理性及化學性危害:固態, 易燃 Physical and Chemical character: Solid, flammability
	特殊危害:無 Special harm: None
主要症狀:頭暈 Mostly symptom: Swirl	

4. 應急措施 FIRST-AID MEASURES

不同暴露途徑之急救方法	吸入:移至新鮮空氣處, 必要時使用藥物治療. 注意保持身體及休息, 並送醫院治療。 Inhalation: Remove from exposure and move to fresh air immediately. If necessary, proper medication will be applied. It is important to keep health condition and send the casualty to hospital.
	皮膚接觸:粉末會導致皮膚過敏, 用流動水冲洗乾淨 , 並及時到醫院檢查 。 Skin: Powder will cause skin burns. Immediately flush skin with plenty of water and get medical aid.
	眼睛接觸:粉末會導致中等程度眼睛過敏, 及時用流動水冲洗 15 分鐘. 如過敏象持續發生. 請求助醫生。 Eyes: Powder will cause eye burns. Immediately flush eyes with plenty of water for at least 15 minutes. If allergy continues, please consult doctors immediately.
	食入:如食入大量. 立即求助醫生。 Ingestion: If ingest a great lot, get medical aid immediately.

5. 火災措施 FORE-FIGHTING MEASURES

適用滅火劑:此 品不可燃物。 Extinguishing media : This product is noncombustible.
特殊滅火防護裝備:有機粘合劑的有毒氣體面具。 Special fire fighting protective equipment : Organic binder's gas toxic mask.
特殊的火和爆炸危險: N/A (穩定) Unusual fire and explosion hazards : N/A (Stable)
消防人員特殊防護裝備:消防人 需佩帶個身式化學防護衣及空氣呼吸器 Special protective equipment: Fireman should wear protective cloth and positive pressure self-contained breathing.

6. 洩漏應急處理 ACCIDENTAL RELEASE MEASURES

個人應注意事項 :不應亂丟廢物 Personal: Strictly prohibit littering up
環境注意事項 :通知環保部門 Environment notes: Note environmental department
清理方法:回收 Cleaning Method: Reclaim

7. 操作處置與儲存 HANDLING AND STORAGE

處置:使用時應保持遠離火源 Handling: Avoid fire while using
儲存:1.儲存於陰涼、乾燥、通風良好的區域，避免陽光直接照射並遠離火源 2.儲存區域應備有滅火器材 Storage:1. Deposited the cool、dry and ventilated area, should be avoid fire 2. Deposited area should have fire extinguisher

8. 接觸控制/個體防護 EXPOSURE CONTROLS/PERSONAL PROTECTION

特殊控制程序:無 Special Control Parameters: None
推薦的工程控制:安裝使用除塵通風設備 Recommended Engineering Controls:
個人防護設備措施 (Personal Protection) 呼吸防護:戴口罩 Breath: Wear respirator 手部防護:棉手套 Hand: Wear gloves 眼睛防護:化學安全眼鏡 Eye: Wear chemical safety glasses

9. 物理及化學性質 PHYSICAL AND CHEMICAL PROPERTIES

外觀和氣味:無異味的棕色粉末(顆粒)。 Appearance and odor : Brown powder (granule) with no odor.	熔點:1800 ℃左右 Melting point : about 1800℃
特殊屬性:可磁化的粉末, Stickable 的磁鐵。 Special property : Magnetizable powder, Stickable to a magnet.	溶解性:不溶於水 Solubility in water : Insoluble

10. 穩定性和反應性 STABILITY AND REACTIVITY

安定性:正常情況下安定 Stability: Stable in normal
特殊狀態下可能之危害反應:在高温 280℃ 下, 產生 HCL、CO2、CO 等有毒氣體 Hazardous reaction: Produce HCL、CO2、CO at high temperature 280
應避免之状況:避免在高温 280℃上 Conditions to Avoid: High temperature 280℃ to avoid
應避免之物質:火 Material to avoid: Fire
危害分解物:無 Hazardous Decomposition Products: None

11. 毒性資料 TOXICOLOGICAL INFORMATION

吸入:經過高温所產生的刺激性氣味，造成頭暈，咳嗽。 Inhalation: Thrill odor may cause swirl and cough
皮膚接觸:過敏 Skin: Allergy
眼睛接觸:過敏 Eye: Allergy
入:中毒 Ingestion: Cause poisoning

12. 生態學資料 ECOLOGICAL INFORMATION

可能之環境影響:無法在自然界中被生物分解 Environment effect: Can not be decomposed by nature

13. 廢棄處理 DISPOSAL CONSIDERATIONS

廢棄處置方法:對加工處理出来的廢棄物統一處置，由認定的清運商進行相關處理;如材料不被污染，將其存入潔淨的容器中在使用，如污染，則放入指定的容器中。

14. 運輸信息 TRANSPORT INFORMATION

特殊運輸注意事項 :防止雨淋、高溫、機械損傷及日光直射 Applicable Regulations: Prevent from rain, high temperature, mechanical damage and exposure to sunlight.

15. 法規信息 REGULATION INFORMATION

1.勞工安全衛生設施規則 1. Health & Safety rules 2.危險物及有害物通識規則 2. Hazards rules 3.道路交通安全則 3.Traffic safety rules

16. 其他信息 OTHER INFORMATION

其他信息 Other information	The information contained herein is based on several references and the present state of ourknowledge. However the MSDS doed not always cover all information about the product, handlethe product carefully. The information is intended to ordinary usage, in case of particular handlings, conductappropriate safety measurements. The information herein is only provision of information, and it does not represent a guaranteeethe properties of the product.	
制造者單位 Company	**名稱:禾邦電子（中國）有限公司** Name：INPAQ TECHNOLOGY CO.,LTD	
	江蘇省無錫市錫山經濟開發區安泰一路 81 號//0510-8878-5968 No. 81 Antai 1 Road, Anzheng Town, Xishan Economic Development Zone, Wuxi, Jiangsu, China Telephone: 0510-88785968	
制表人 Tabulator	**職稱:專員** Title:Commissioner	**李沛陵**
制表日期 Date	2012 **年** 9 **月** 20 **日** 2012 / 09 / 20	
備註 Remarks		

PSA 佳邦科技
INPAQ TECHNOLOGY

CERTIFICATE OF COMPLIANCE

This letter is to confirmation that all product(s)/material(s)comply with the REACH 0.1%(w/w)limit for any of the current 233 REACH Substances of Very High Concern (SVHC).

PN: NF-C-F9-R0-179

Company Name: INPAQ TECHNOLOGY (SUZHOU) CO.,LTD

Company Address: No.5, Chunqiu Road, Panyang Industrial Park, Huangdai Town, Xiangcheng Zone, Suzhou City 215143 ,Jiangsu Province, China

Signature: Hellen Mu

Date:2023/6/10