



检测报告

Test Report

报告编号 A2250174863101001E
Report No. A2250174863101001E

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报告抬头公司名称 无锡市明星精密线材有限公司
Company Name WUXI CITY MINGXING PRECISION CO.,LTD
shown on Report
地 址 江苏省无锡市鹅湖镇甘露甘厚路工业集中区
Address GANHOU ROAD, INDUSTRIAL FOCUS AREAS, GANLU E'HU TOWN, WUXI CITY, JIANGSU 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 镀锡铜线
Sample Name TINNDE COPPER WIRE
样品接收日期 2025.03.19
Sample Received Date Mar. 19, 2025
样品检测日期 2025.03.19-2025.03.26
Testing Period Mar. 19, 2025 to Mar. 26, 2025

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)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) 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

陈凯敏

日期

Date

2025.03.26

陈凯敏

实验室经理 Lab Manager

No. R780113906

上海市闵行区万芳路 1351 号

上海华测品标检测技术有限公司

Centre Testing International Pinbiao(Shanghai) Co., Ltd.

No.1351, Wanfang Road, Minhang District, Shanghai, China

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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.

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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
	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013	
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013	
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
	参考 IEC 62321-4:2013+AMD1:2017 CSV Refer to IEC 62321-4:2013+AMD1:2017 CSV	
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-12:2023	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-12:2023	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-12:2023	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

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	002		
铅 Lead (Pb)	46 mg/kg	N.D.	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.▼	N.D.▼	0.10 µg/cm ² (LOQ)	1000 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
	002		
多溴联苯 Polybrominated Biphenyls (PBBs)			
一溴联苯 Monobromobiphenyl	N.D.	25 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	25 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	25 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	25 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	25 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	25 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	25 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	25 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	25 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	25 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	002		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.	25 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	25 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	25 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	25 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	25 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	25 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	25 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	25 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	25 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	25 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
	002		
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	限值 Limit
	001		
多溴联苯 Polybrominated Biphenyls (PBBs)			
一溴联苯 Monobromobiphenyl	N.D.	25 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	25 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	25 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	25 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	25 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	25 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	25 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	25 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	25 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	25 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
	001		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.	25 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	25 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	25 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	25 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	25 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	25 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	25 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	25 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	25 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	25 mg/kg	

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

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
铍 Beryllium (Be)	N.D.	10 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	002	
铍 Beryllium (Be)	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	001	银色镀层 Silvery plating
2	002	金属基材 Metal base

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备注: 对于检测铅, 镉, 汞, 铍之样品已消解完全。

-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 $\mu\text{g}/\text{cm}^2$

-▼六价铬浓度小于 0.10 $\mu\text{g}/\text{cm}^2$, 样品未检出六价铬。由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Beryllium.

-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 $\mu\text{g}/\text{cm}^2$

-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10 $\mu\text{g}/\text{cm}^2$. The coating is considered a non-Cr(VI) based coating. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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

“*”表示该方法不在 CNAS 认可范围内。

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

“*”indicates the method(s) is (are) not in CNAS accreditation scope.

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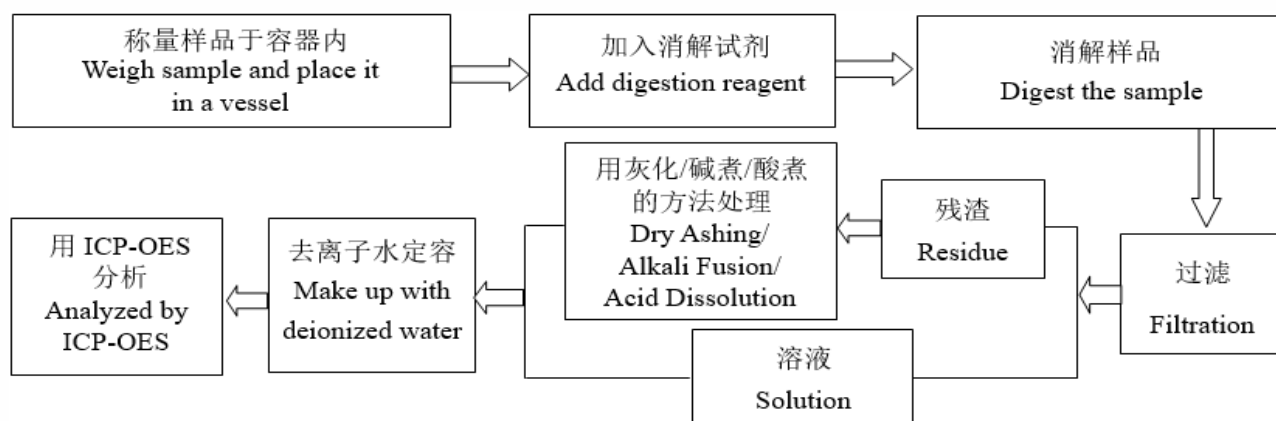
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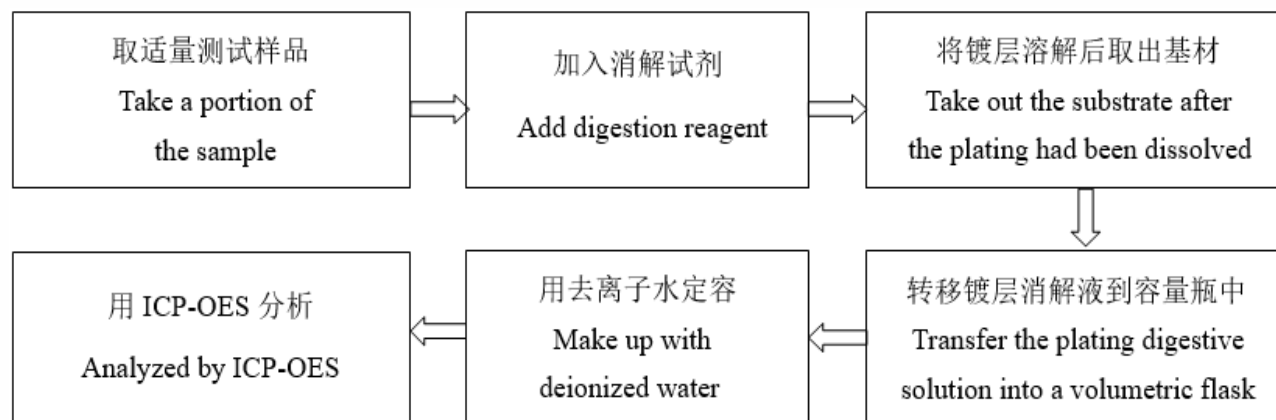
检测流程 Test Process

1. 铅 Lead (Pb), 镉 Cadmium (Cd)

(1) IEC 62321-5:2013



(2) 参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013



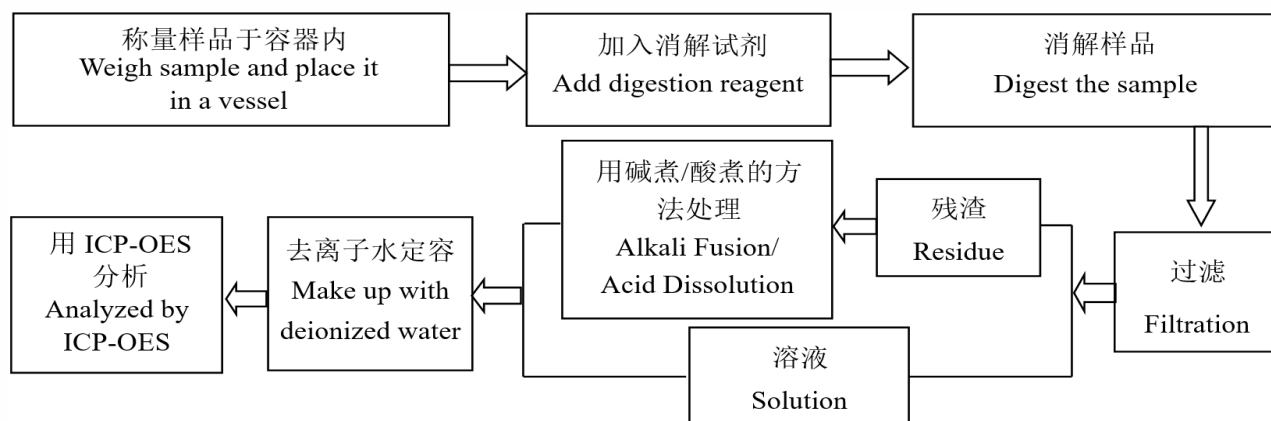
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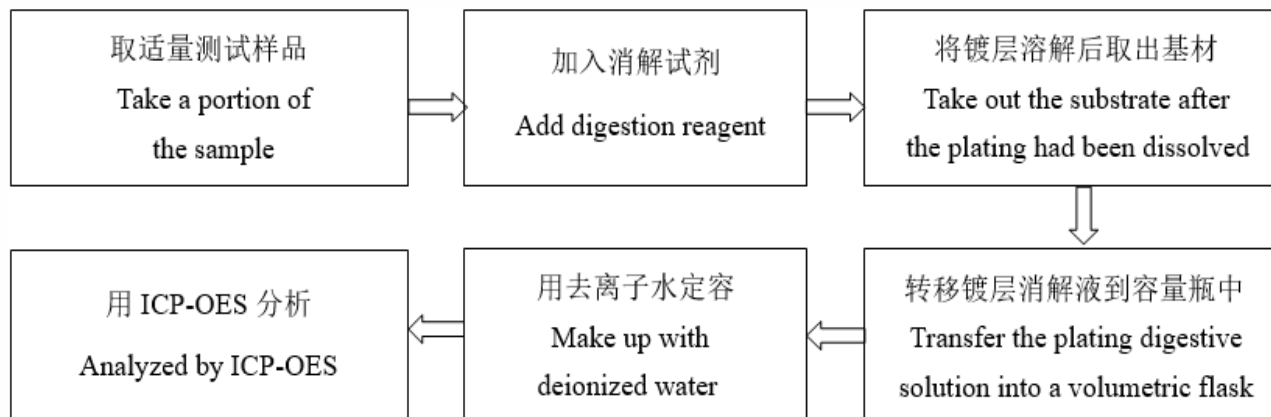
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2. 汞 Mercury (Hg)

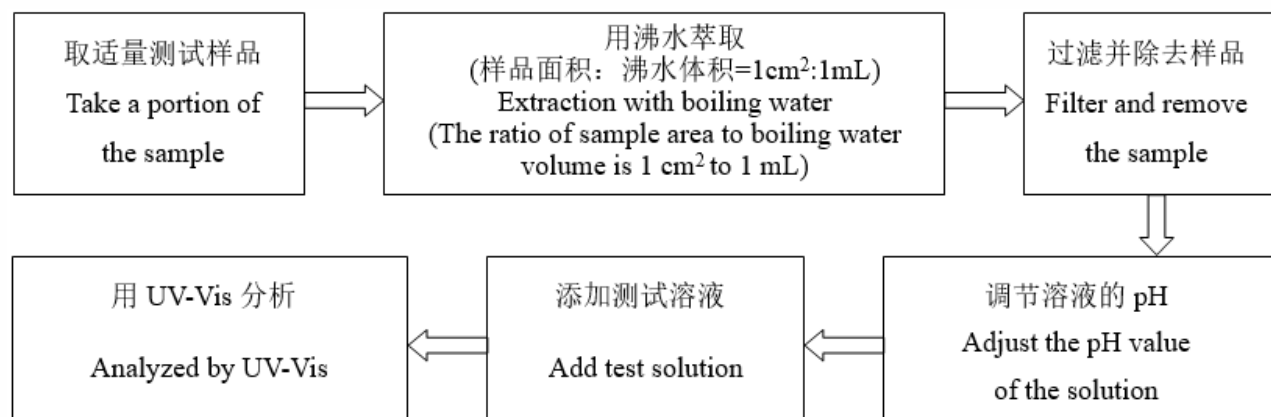
(1) IEC 62321-4:2013+AMD1:2017 CSV



(2) 参考 IEC 62321-4:2013+AMD1:2017 CSV Refer to IEC 62321-4:2013+AMD1:2017 CSV



3. 六价铬 Hexavalent Chromium (Cr(VI))

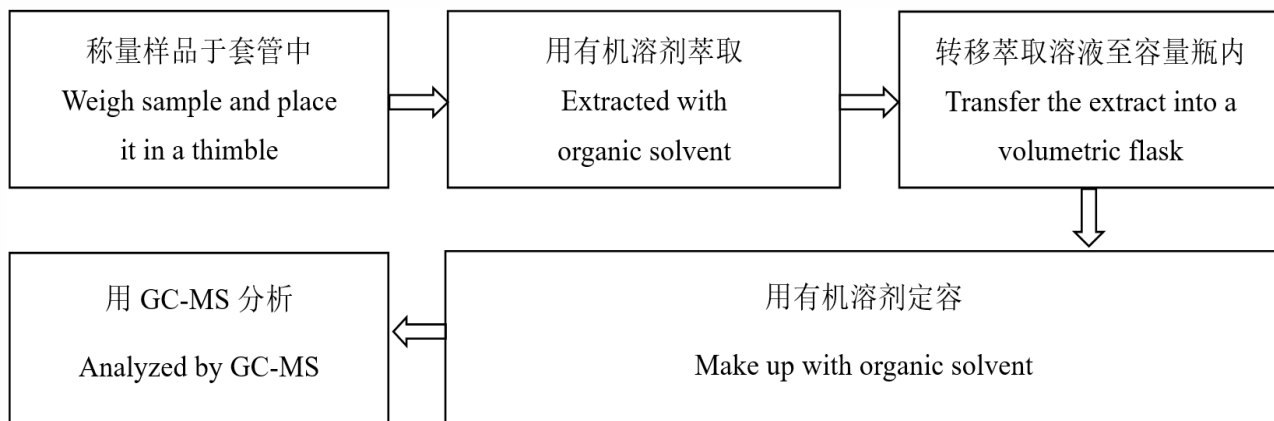


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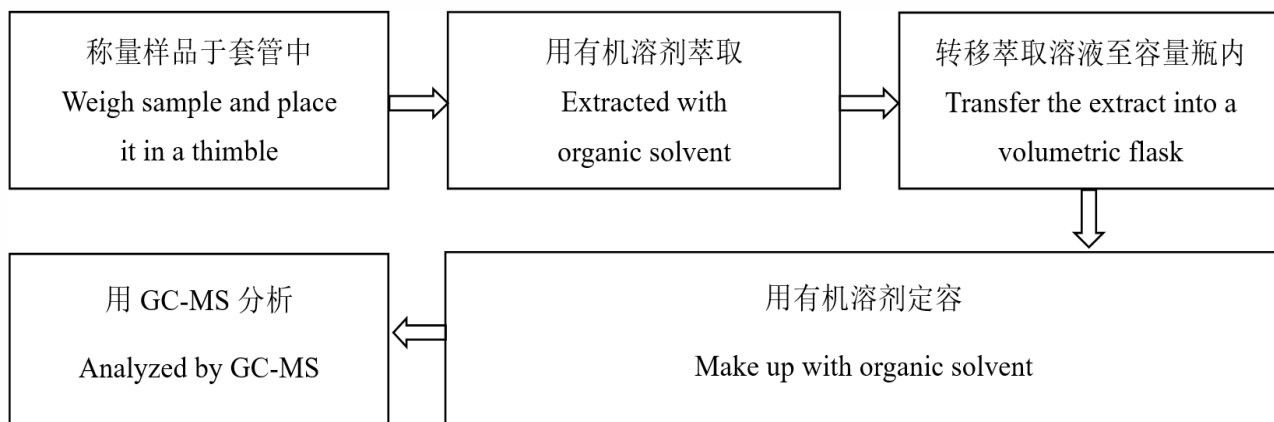
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4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)

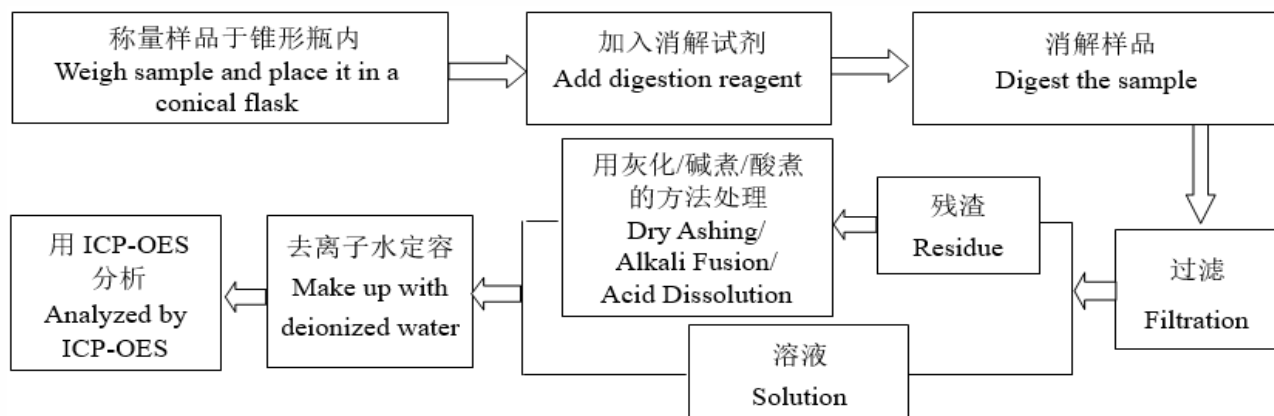


5. 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)



6. 铍 Beryllium(Be)

(1) 参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018 (金属 Metal)

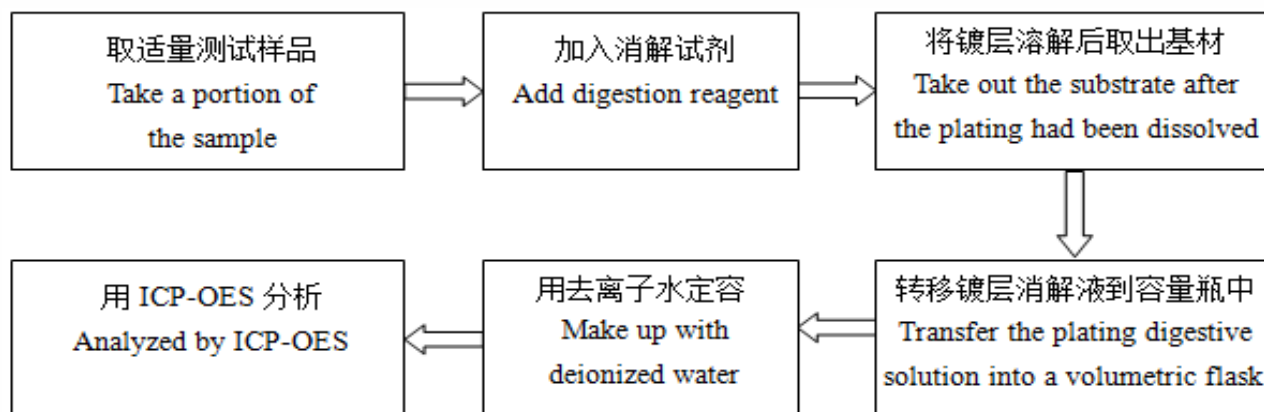


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(2) 参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018 (镀层 Plating)



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样品图片

Photo(s) of the sample(s)



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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. 除非另有说明, 报告参照 ILAC-G8:09/2019 / CNAS-GL015:2022 使用简单接受 (w=0) 二元判定规则进行符合性判定; 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 / CNAS-GL015:2022;
5. 未经 CTI 书面同意, 不得部分复制本报告;
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In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** 报告结束 ***
*** End of Report ***