



检测报告

Test Report

报告编号 A224074412210101E
Report No. A224074412210101E

第 1 页 共 12 页
Page 1 of 12

报告抬头公司名称 广东风华高新科技股份有限公司先华新型敏感元件分公司
Company Name GUANGDONG FENGHUA ADVANCED TECHNOLOGY HOLDING CO., LTD.
shown on Report XIANHUA NEW SENSITIVE COMPONENTS BRANCH COMPANY
地 址 广东省肇庆市风华路 18 号风华电子工业城
Address FENGHUA ELECTRONIC INDUSTRIAL CITY, 18TH FENGHUA ROAD, ZHAOQING, GUANGDONG, PRC.

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	压敏电阻
Sample Name(s)	Varistor
样品颜色	黄色
Color	yellow
样品接收日期	2024.11.28
Sample Received Date	Nov. 28, 2024
样品检测日期	2024.11.28-2024.12.04
Testing Period	Nov. 28, 2024 to Dec. 4, 2024

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), 四溴双酚 A (TBBP-A), 中链氯化石蜡(MCCPs)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), Tetrabromobisphenol A (TBBP-A), Middle Chain Chlorinated Paraffins (MCCPs) 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

文利

日 期

Date

2024.12.04

授权签字人 Lab Authorized

Signatory

No. R158927939

华测检测认证集团股份有限公司

广东省深圳市宝安区新安街道兴东社区华测检测大楼

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

检测报告
Test Report

报告编号 A224074412210101E
Report No. A224074412210101E

第 2 页 共 12 页
Page 2 of 12

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报告编号 A224074412210101E
Report No. A224074412210101E第 3 页 共 12 页
Page 3 of 12

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
	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
铍 Beryllium(Be)	参考 US EPA 3052:1996 & US EPA 6010D:2018 Refer to US EPA 3052:1996 & US EPA 6010D:2018	ICP-OES
中链氯化石蜡 Middle Chain Chlorinated Paraffins (MCCPs)	参考 US EPA 3540C:1996 & US EPA 8270E:2018 Refer to US EPA 3540C:1996 & US EPA 8270E:2018	GC-MS(NCI)
四溴双酚 A Tetrabromobisphenol A (TBBP-A)	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

检测报告
Test Report

报告编号 A224074412210101E 第4页 共12页
Report No. A224074412210101E Page 4 of 12

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	003		
铅 Lead (Pb)	N.D.	N.D.	57 mg/kg	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	--	--	8 mg/kg	1000 mg/kg
	--	N.D.▼	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

报告编号 A224074412210101E
Report No. A224074412210101E

第 5 页 共 12 页
Page 5 of 12

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	
四溴双酚 A Tetrabromobisphenol A (TBBP-A)	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
中链氯化石蜡 Middle Chain Chlorinated Paraffins (MCCPs)	N.D.	100 mg/kg

检测报告

Test Report

报告编号 A224074412210101E
Report No. A224074412210101E

第 6 页 共 12 页
Page 6 of 12

样品/部位描述 Sample/Part Description

序号	CTI 样品 ID	描述
No.	CTI Sample ID	Description
1	001	有棕色印字的黄色本体（整体测试） Yellow body with brown printing(Tested as a whole)*
2	002	金属基材 Metal base
3	003	银色镀层 Silvery plating

备注: -对于检测铅, 镉, 汞, 铍之样品已消解完全。
-*按照目前手段, 样品无法进一步拆分, 样品整体测试, 测试结果不代表整体测试样品中任何一种单一材质的含量。
-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.
-*The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology. The result(s) shown on this report may be different from the content of any homogeneous material.
-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。

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

检测报告 Test Report

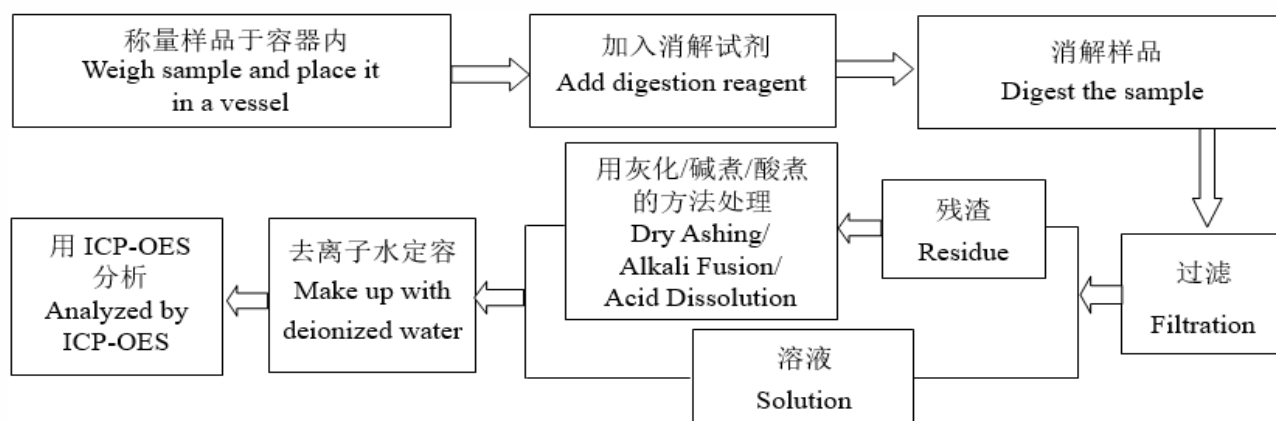
报告编号 A224074412210101E
Report No. A224074412210101E

第 7 页 共 12 页
Page 7 of 12

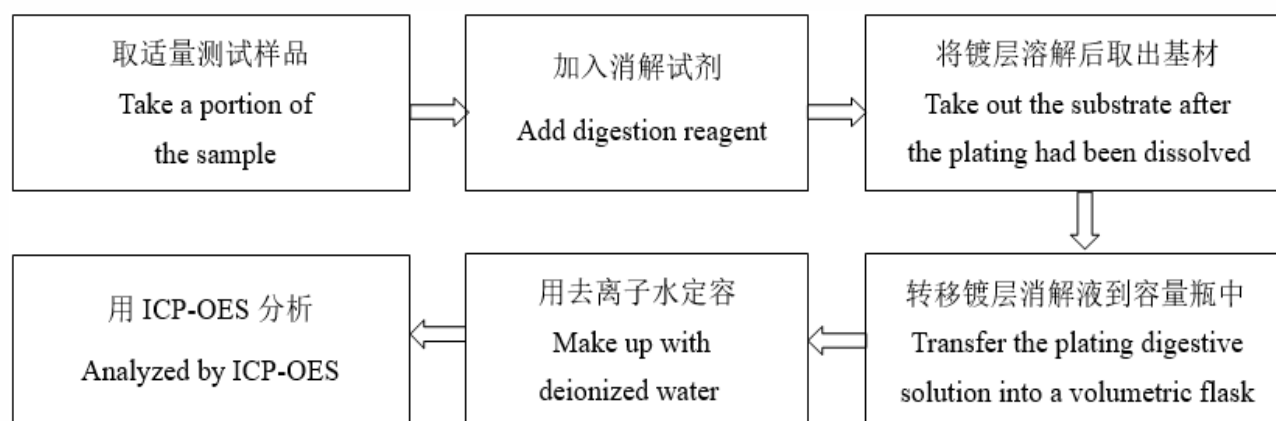
检测流程 Test Process

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

(1) IEC 62321-5:2013



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



检测报告

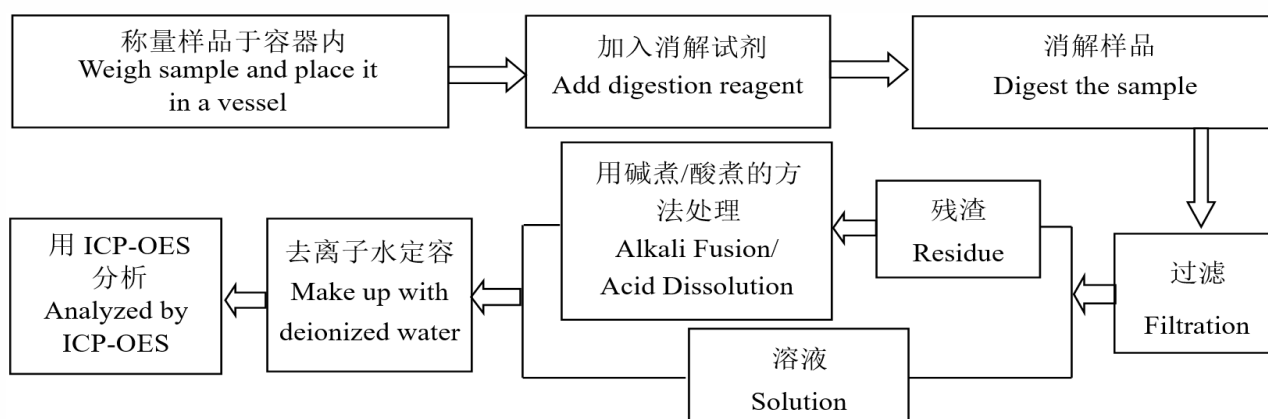
Test Report

报告编号 A224074412210101E
Report No. A224074412210101E

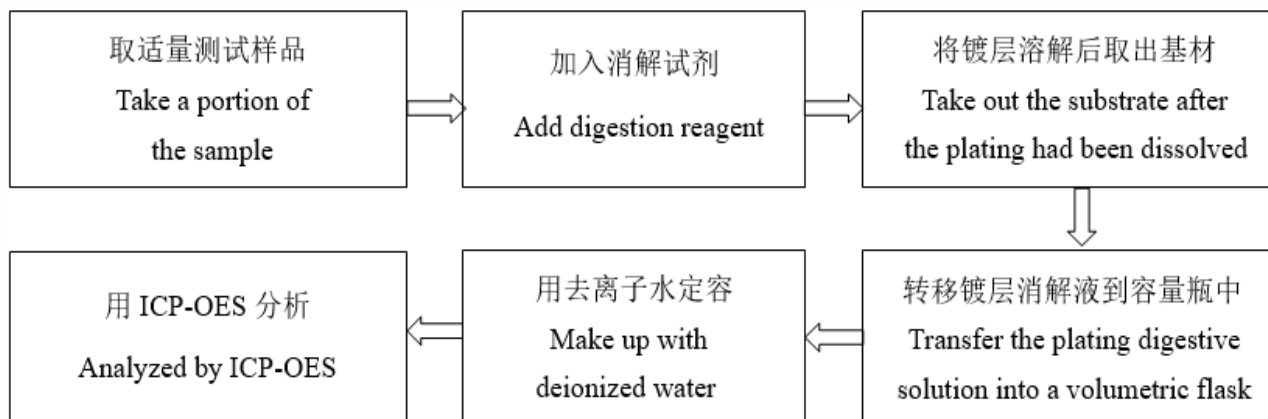
第 8 页 共 12 页
Page 8 of 12

2. 汞 Mercury (Hg)

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

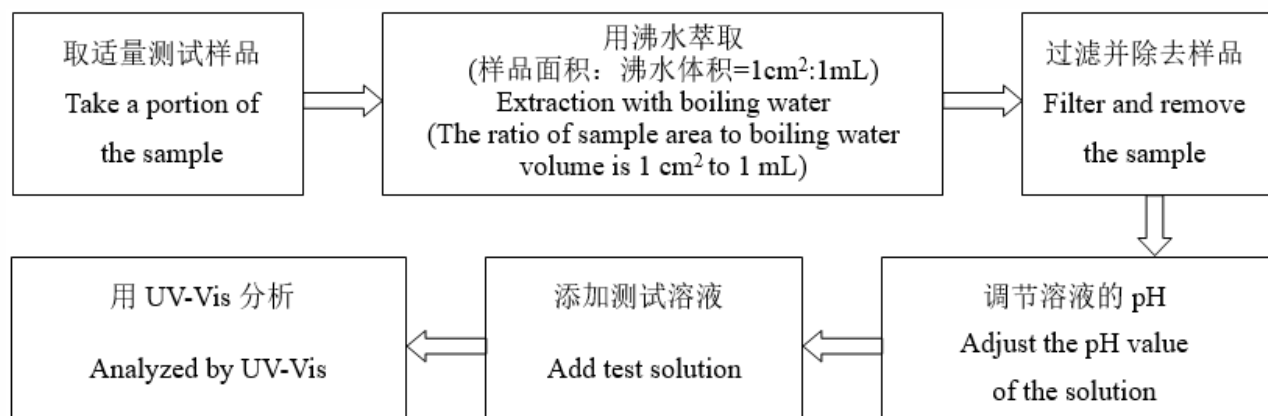


(2) 参考 IEC 62321-4:2013+AMD1:2017 CSV Refer to IEC 62321-4:2013+AMD1:2017 CSV



3. 六价铬 Hexavalent Chromium (Cr(VI))

(1) IEC 62321-7-1:2015

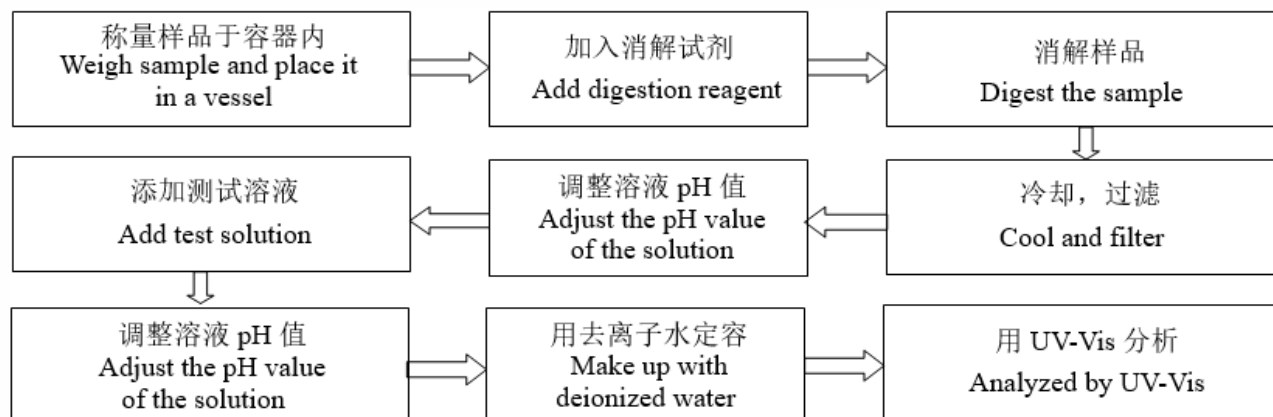


检测报告 Test Report

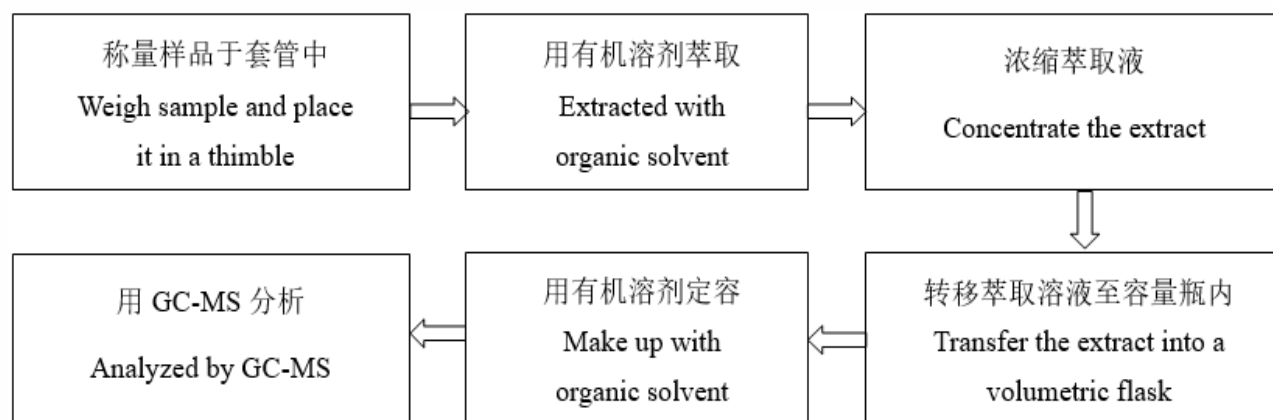
报告编号 A224074412210101E
Report No. A224074412210101E

第 9 页 共 12 页
Page 9 of 12

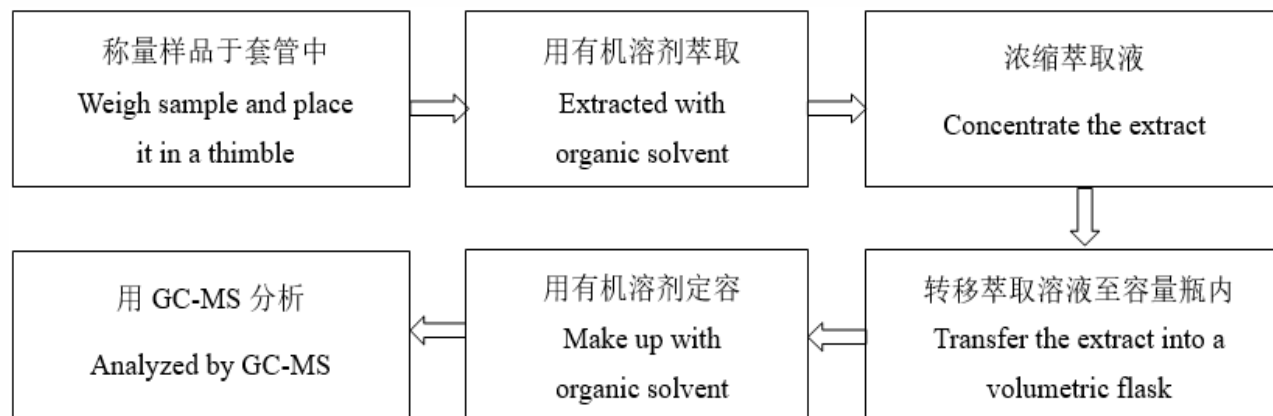
(2) IEC 62321-7-2:2017



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)

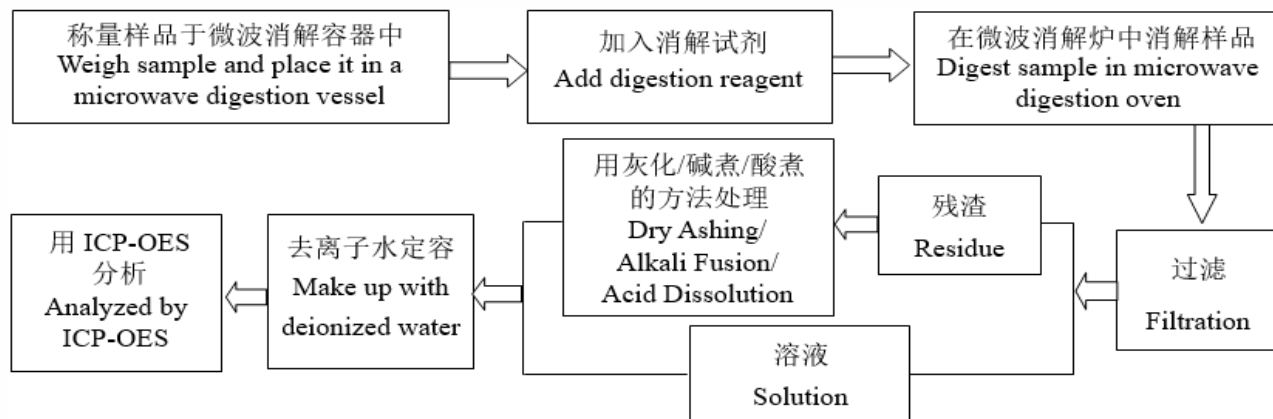


检测报告 Test Report

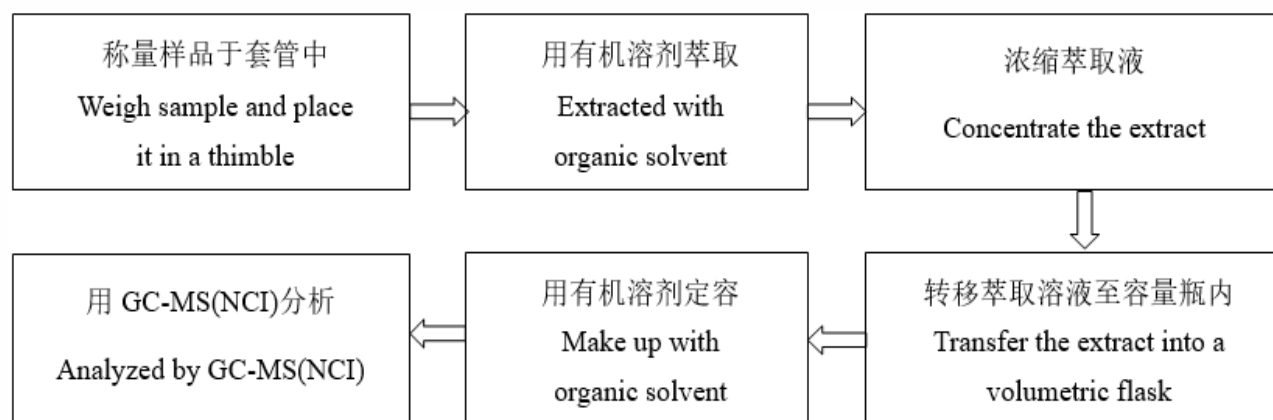
报告编号 A224074412210101E
Report No. A224074412210101E

第 10 页 共 12 页
Page 10 of 12

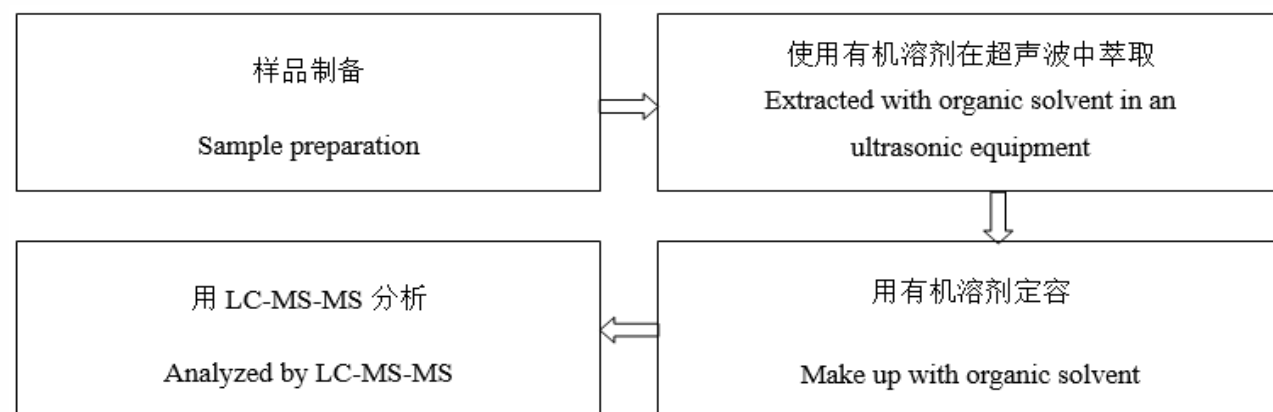
6. 铍 Beryllium(Be)



7. 中链氯化石蜡 Middle Chain Chlorinated Paraffins (MCCPs)



8. 四溴双酚 A Tetrabromobisphenol A (TBBP-A)



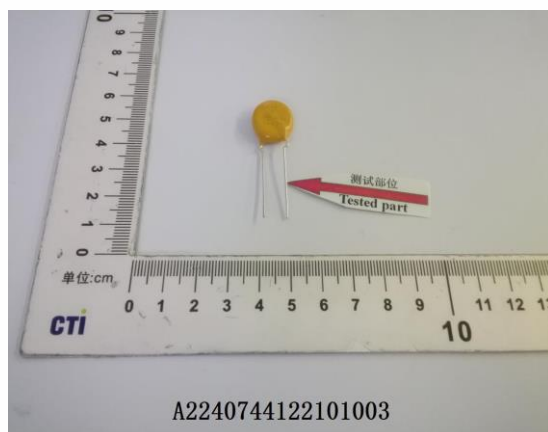
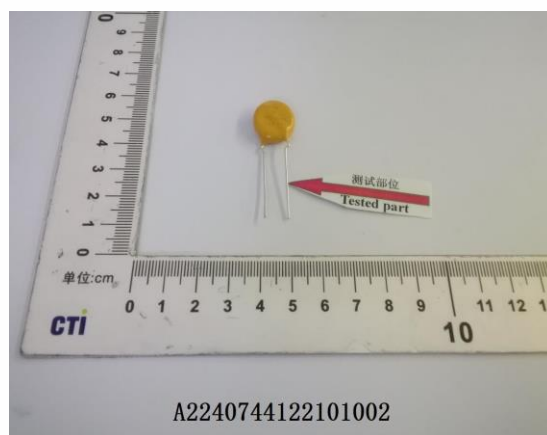
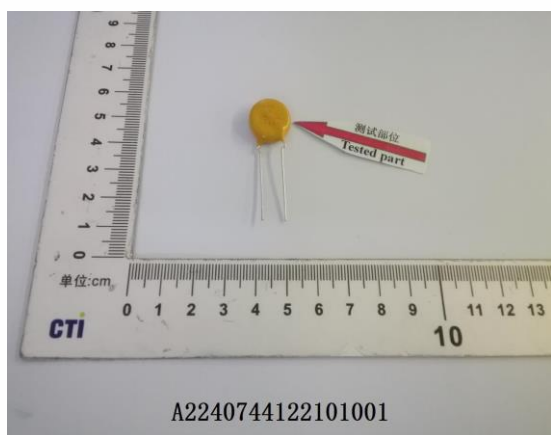
检测报告 Test Report

报告编号 A224074412210101E
Report No. A224074412210101E

第 11 页 共 12 页
Page 11 of 12

样品图片

Photo(s) of the sample(s)



检测报告 Test Report

报告编号 A224074412210101E
Report No. A224074412210101E

第 12 页 共 12 页
Page 12 of 12

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;
Without written approval of CTI, this report can't be reproduced except in full;
6. 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 ***