

检测报告 Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

第 1 页 共 15 页
Page 1 of 15

申请单位 惠州市興利業精密電子廠有限公司[敬業電子(惠州)有限公司]
Applicant BENNIC COMPONENTS
地 址 廣東省惠州市惠城區惠風西四路 82 號(平南工業園 50 號小區)
Address 82, HUI FENG XI SI ROAD, HUIZHOU, GUANG DONG PROVIENCE

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 client

序号 No.	成品名称 Finished Product Name	样品名称 Sample Name(s)
(1)	水泥電阻 CEMENT POWER RESISTORS	瓷殼 Porcelain case
(2)		瓷棒 Porcelain rods
(3)		石英沙填充料 Material quartz sand fills
(4)		引線型鐵帽 Pin-type iron cap
(5)		插片型鐵帽 Insert type money cap
(6)		電阻絲 Resistance wire
(7)		紅色油墨 Red ink
(8)		黑色油墨 Black ink

样品接收日期 2015.12.23
Sample Received Date Dec. 23, 2015
样品检测日期 2015.12.23-2015.12.28
Testing Period Dec. 23, 2015 to Dec. 28, 2015

检测要求 请参见下页。
Test Requested Please refer to the following page(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).

主 检 Mett Zheng 审 核 Danna Yan
Tested by Reviewed by

批 准 Danli 日 期 2015.12.28
Approved by Date

Danny Liu
Technical Manager

No. R148191943

华测检测集团股份有限公司
Centre Testing International Group Co., Ltd.

广东省深圳市宝安区 70 区鸿威工业园
Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China

检测报告 Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

第 2 页 共 15 页
Page 2 of 15

结论 Conclusion

测试样品 Tested Sample	依据指令 According to 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	合格 Pass

合格表示检测结果不超过欧盟 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 do not exceed the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

检测报告

Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

第 3 页 共 15 页
Page 3 of 15

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)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) in the submitted sample(s).

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 Ed.1.0	ICP-OES
镉 Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex B	UV-Vis
	IEC 62321:2008 Ed.1 Annex C	
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	参考 EN 14372:2004(E) Refer to EN 14372:2004(E)	GC-MS

检测报告
Test Report报告编号 SCL01H110293E
Report No. SCL01H110293E第 4 页 共 15 页
Page 4 of 15

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
	(1)	(2)		
铅 Lead (Pb)	N.D.	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.	2 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL	限值 Limit
	(3)	(4)		
铅 Lead (Pb)	N.D.	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.	---	2 mg/kg	1000 mg/kg
	---	阴性 Negative	/	

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL	限值 Limit
	(5)	(6)		
铅 Lead (Pb)	N.D.	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))	阴性 Negative	阴性 Negative	/	1000 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL	限值 Limit
	(7)*	(8)*		
铅 Lead (Pb)	N.D.	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.	2 mg/kg	1000 mg/kg

检测报告
Test Report报告编号 SCL01H110293E
Report No. SCL01H110293E第 5 页 共 15 页
Page 5 of 15

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
	(1)	(2)		
多溴联苯 Polybrominated Biphenyls(PBBs)				
一溴联苯 Monobromobiphenyl	N.D.	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	N.D.	5 mg/kg	
多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)				
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	N.D.	5 mg/kg	

检测报告
Test Report报告编号 SCL01H110293E
Report No. SCL01H110293E第 6 页 共 15 页
Page 6 of 15

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
	(3)	(7)*		
多溴联苯 Polybrominated Biphenyls(PBBs)				
一溴联苯 Monobromobiphenyl	N.D.	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	N.D.	5 mg/kg	
多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)				
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	N.D.	5 mg/kg	

检测报告
Test Report报告编号 SCL01H110293E
Report No. SCL01H110293E第 7 页 共 15 页
Page 7 of 15

检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result (8)*	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	
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 SCL01H110293E
Report No. SCL01H110293E第 8 页 共 15 页
Page 8 of 15

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
	(1)	(2)		
邻苯二甲酸酯 Phthalates				
邻苯二甲酸二正丁酯 Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄酯 Benzylbutyl phthalate(BBP) CAS#:85-68-7	N.D.	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸(2-乙基己基)酯 Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	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.	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
	(3)	(7)*		
邻苯二甲酸酯 Phthalates				
邻苯二甲酸二正丁酯 Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄酯 Benzylbutyl phthalate(BBP) CAS#:85-68-7	N.D.	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸(2-乙基己基)酯 Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	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.	N.D.	50 mg/kg	1000 mg/kg

检测报告
Test Report报告编号 SCL01H110293E
Report No. SCL01H110293E第 9 页 共 15 页
Page 9 of 15

检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限	限值
	(8)*	MDL	Limit
邻苯二甲酸酯 Phthalates			
邻苯二甲酸二正丁酯 Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄酯 Benzylbutyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸(2-乙基己基)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

测试样品/部位描述 Tested Sample/Part Description

- | | |
|------------------------------|------------------------|
| (1) 白色陶瓷 White ceramic | (5) 银色金属 Silvery metal |
| (2) 灰白色陶瓷 Gray-white ceramic | (6) 银色金属 Silvery metal |
| (3) 白色粉末 White powder | (7) 红色油墨 Red ink |
| (4) 银色金属 Silvery metal | (8) 黑色油墨 Black ink |

备注: 对于检测铅, 镉, 汞之样品已完全溶解。

-N.D. = 未检出 (小于方法检出限)

-mg/kg = ppm = 百万分之一

-阴性表示不含有六价铬, 由表面积为 50cm² 的样品所萃取出来的溶液中的六价铬的浓度小于 0.02mg/kg

-*测试样品经过 105℃ 烘烤 2 小时后测试。

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

-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.

-*The sample was tested after drying for 2 hours under 105℃.

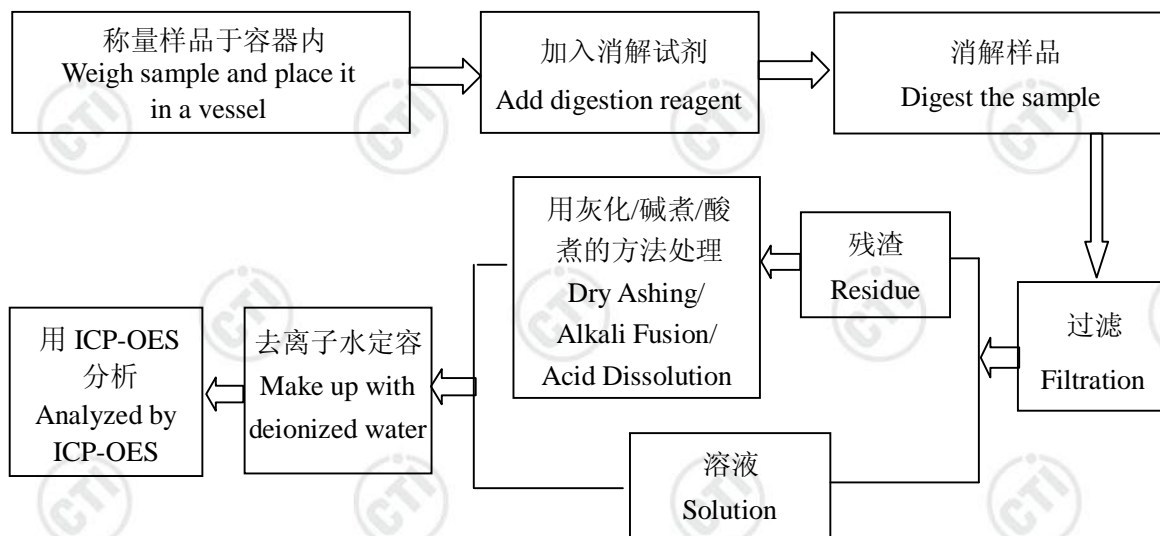
检测报告 Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

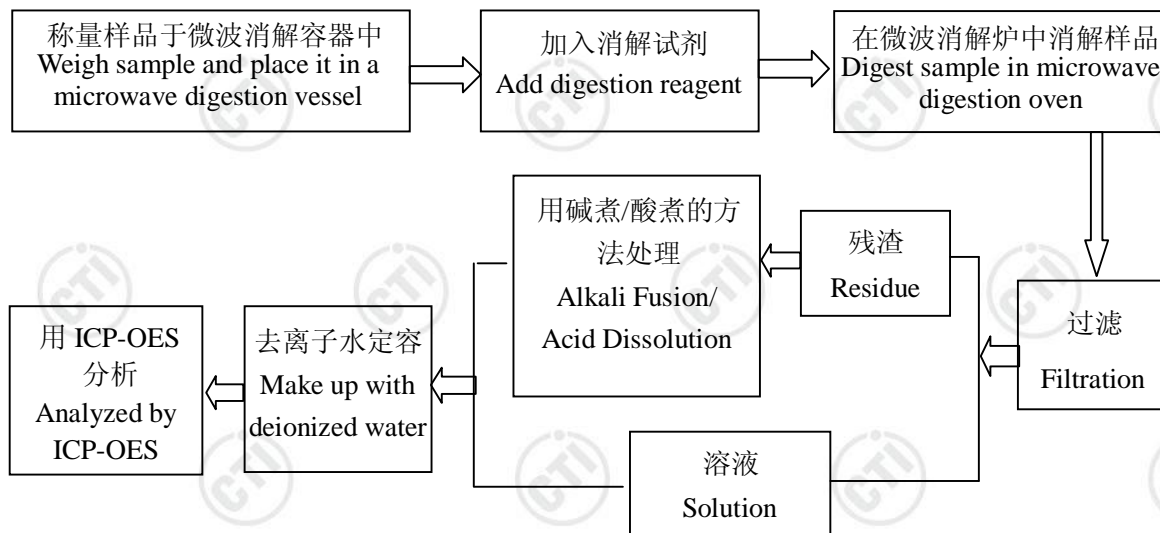
第 10 页 共 15 页
Page 10 of 15

检测流程 Test Process

1. 铅 Lead(Pb), 镉 Cadmium(Cd)



2. 汞 Mercury(Hg)



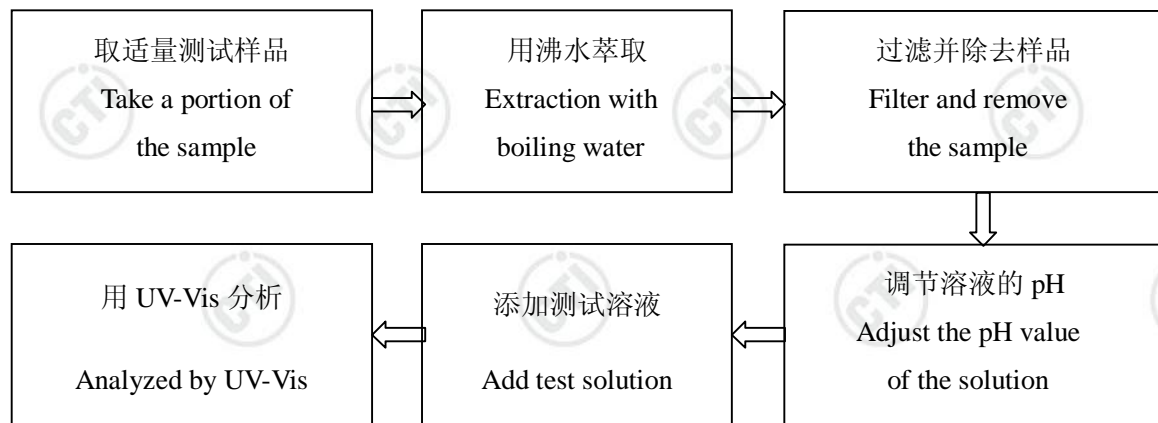
检测报告 Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

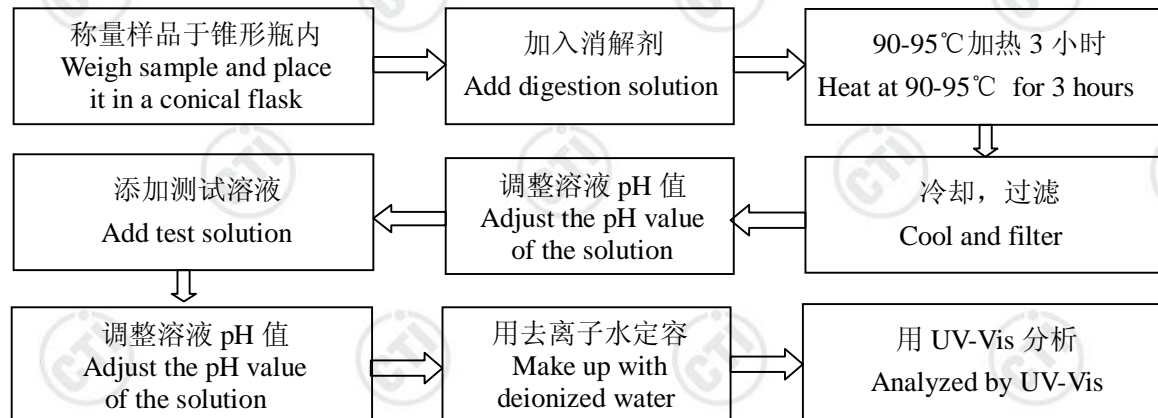
第 11 页 共 15 页
Page 11 of 15

3. 六价铬 Hexavalent Chromium (Cr(VI))

(1) IEC 62321:2008 Ed. 1 Annex B



(2) IEC 62321:2008 Ed. 1 Annex C



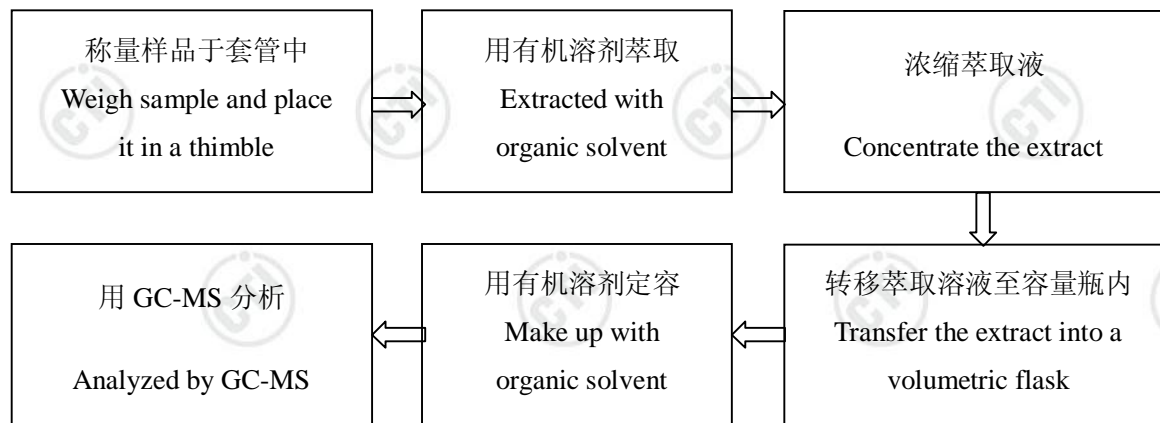
检测报告

Test Report

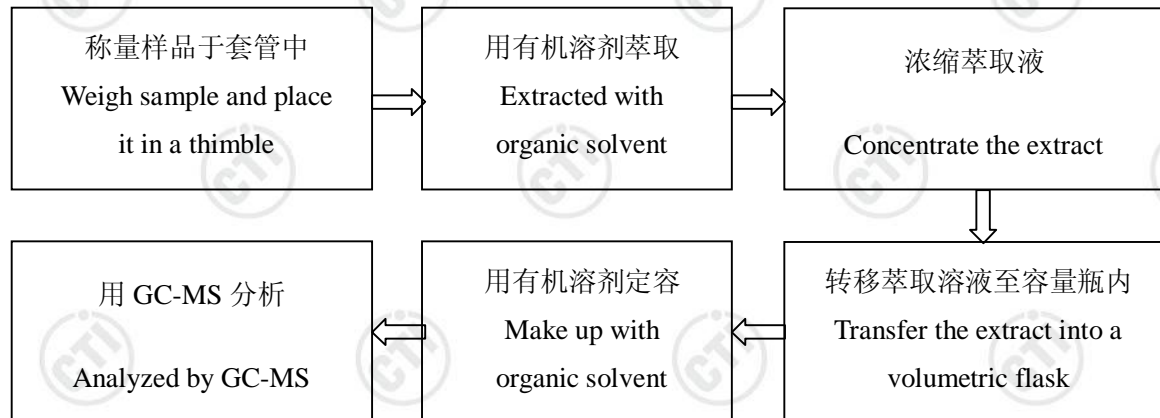
报告编号 SCL01H110293E
Report No. SCL01H110293E

第 12 页 共 15 页
Page 12 of 15

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)



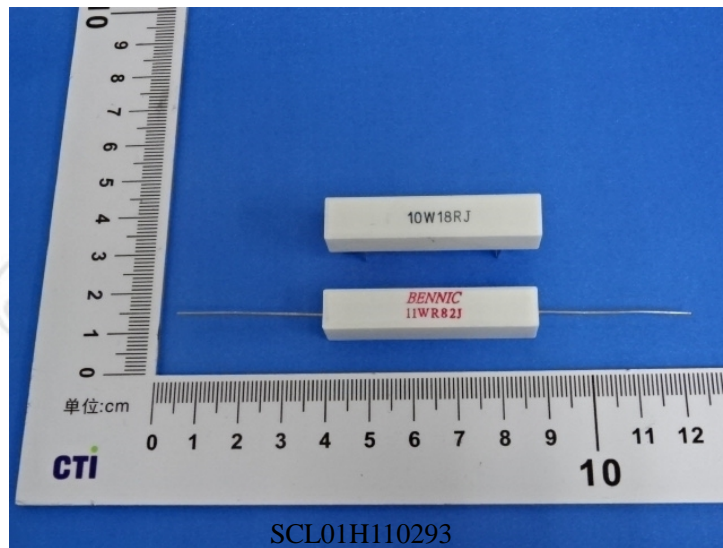
检测报告

Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

第 13 页 共 15 页
Page 13 of 15

成品图片 Photo(s) of the Finished Product(s)



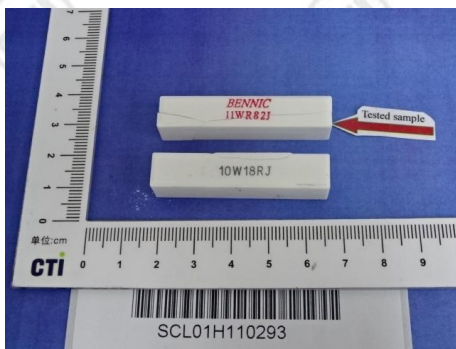
检测报告 Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

第 14 页 共 15 页
Page 14 of 15

样品图片 Photo(s) of the sample(s)

(1)



(2)



(3)



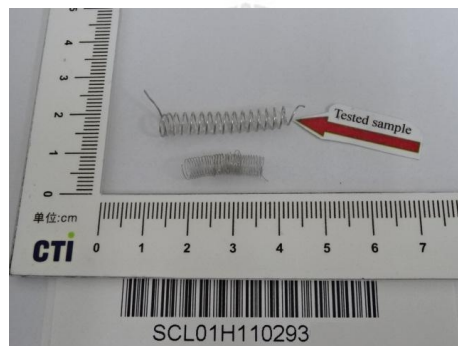
(4)



(5)



(6)



检测报告

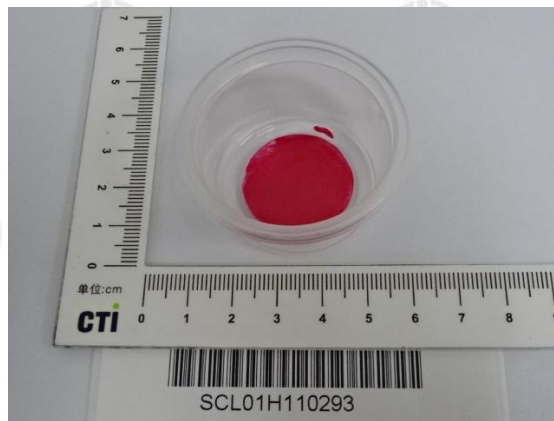
Test Report

报告编号 SCL01H110293E
Report No. SCL01H110293E

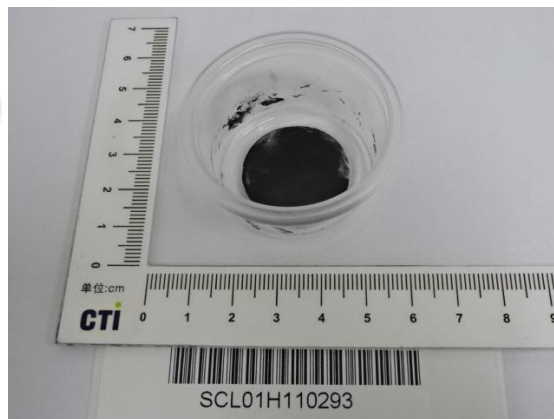
第 15 页 共 15 页
Page 15 of 15

样品图片 Photo(s) of the sample(s)

(7)



(8)



*** 报告结束 ***

*** End of Report ***

检测报告无批准人签字及“报告专用章”无效，本报告检测结果仅对受测样品负责。未经 CTI 书面同意，不得部分复制本报告。

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.