

# 检测报告 Test Report

报告编号 RHS01F017272E  
Report No. RHS01F017272E

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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**

成品名称 Finished Product Name	请参见下页 Please refer to the following page
样品名称 Sample Name(s)	请参见下页 Please refer to the following page
样品接收日期	2013.10.18
Sample Received Date	Oct. 18, 2013
样品检测日期	2013.10.18-2013.10.23
Testing Period	Oct. 18, 2013 to Oct. 23, 2013

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

主 检  
Tested by Rick Lin  
批 准  
Approved by Danny Liu

审 核  
Reviewed by Vangar He  
日 期  
Date 2013.10.23



Danny Liu  
Technical Manager

No. 1012241762

深圳市华测检测技术股份有限公司 广东省深圳市宝安区 70 区鸿威工业园  
Centre Testing International (Shenzhen) Co., Ltd. Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China

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序号 No.	成品名称 Finished Product Name	样品名称 Sample Name(s)
(1)	塑膠電容器 FILM CAPACITORS	CP 線 TIN PLATE COPPER COVERED STEEL WIRE
(2)		CU 線 TIN PLATE COPPER WIRE
(3)		錫鋅線 TIN-ZINC ALLOY WIRE
(4)		鋅線 ZINC WIRE
(5)		聚丙烯膜 METALLIZED POLYPROPYLENE FILM
(6)		銀色 UV 油墨 SILVERY INK(UV)
(7)		黑色 UV 油墨 BLACK INK(UV)
(8)		黑色瑪拉膠帶 BLACK COATED TRANSPARENT ADHESIVE PLASTIC TAPE
		黃色瑪拉膠帶 YELLOW COATED TRANSPATENT ADHESIVE PLASTIC TAPE
(10)		白色環氧樹脂 WHITE EPOXY POTTING RESIN
(11)		黃色環氧樹脂 YELLOW EPOXY POTTING RESIN
(12)		黑色環氧樹脂 BLACK EPOXY POTTING RESIN
(13)		棕色環氧樹脂 BROWN EPOXY POTTING RESIN
(14)		塞珠 PLASTIC BEAD

### 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)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) in the submitted sample(s).

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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 62321:2008 Ed.1 Sec.8	ICP-OES
	IEC 62321:2008 Ed.1 Sec.9	
	IEC 62321:2008 Ed.1 Sec.10	
镉 Cadmium (Cd)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES
	IEC 62321:2008 Ed.1 Sec.9	
	IEC 62321:2008 Ed.1 Sec.10	
汞 Mercury (Hg)	IEC 62321:2008 Ed.1 Sec.7	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

### 检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(1)	(2)	
铅 Lead (Pb)	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	阴性 Negative	阴性 Negative	/

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(3)	(4)	
铅 Lead (Pb)	61 mg/kg	25 mg/kg	2 mg/kg
镉 Cadmium (Cd)	N.D.	18 mg/kg	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	阴性 Negative	阴性 Negative	/

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### 检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(5)	(6)	
铅 Lead (Pb)	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(7)	(8)	
铅 Lead (Pb)	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(9)	(10)	
铅 Lead (Pb)	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(11)	(12)	
铅 Lead (Pb)	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(13)	(14)	
铅 Lead (Pb)	N.D.	15 mg/kg	2 mg/kg
镉 Cadmium (Cd)	N.D.	3 mg/kg	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	2 mg/kg

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(5)	(6)	
<b>多溴联苯 Polybrominated Biphenyls(PBBs)</b>			
一溴联苯 Monobromobiphenyl	N.D.	N.D.	5 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
<b>多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)</b>			
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	5 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

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**检测结果 Test Result(s)**

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(7)	(8)	
<b>多溴联苯 Polybrominated Biphenyls(PBBs)</b>			
一溴联苯 Monobromobiphenyl	N.D.	N.D.	5 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
<b>多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)</b>			
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	5 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

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测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(9)	(10)	
<b>多溴联苯 Polybrominated Biphenyls(PBBs)</b>			
一溴联苯 Monobromobiphenyl	N.D.	N.D.	5 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
<b>多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)</b>			
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	5 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

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测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(11)	(12)	
<b>多溴联苯 Polybrominated Biphenyls(PBBs)</b>			
一溴联苯 Monobromobiphenyl	N.D.	N.D.	5 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
<b>多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)</b>			
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	5 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



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**检测结果 Test Result(s)**

测试项目 Tested Item(s)	结果 Result		方法检测限 MDL
	(13)	(14)	
<b>多溴联苯 Polybrominated Biphenyls(PBBs)</b>			
一溴联苯 Monobromobiphenyl	N.D.	N.D.	5 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
<b>多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)</b>			
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	5 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

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

- |                              |                                   |
|------------------------------|-----------------------------------|
| (1) 银色金属线 Silvery metal wire | (8) 黑色胶带 Black adhesive tape      |
| (2) 银色金属线 Silvery metal wire | (9) 黄色胶带 Yellow adhesive tape     |
| (3) 银色金属线 Silvery metal wire | (10) 白色树脂 White resin             |
| (4) 银色金属线 Silvery metal wire | (11) 黄色树脂 Yellow resin            |
| (5) 银色薄膜 Silvery film        | (12) 黑色树脂 Black resin             |
| (6) 银色液体 Silvery liquid      | (13) 红棕色树脂 Red-brown resin        |
| (7) 黑色油墨 Black ink           | (14) 黄色塑料颗粒 Yellow plastic grains |

注释: 对于检测铅, 镉, 汞之样品已完全溶解。

-N.D. = 未检出 (小于方法检测限)

-mg/kg = ppm = 百万分之几

-阴性表示不含有六价铬, 由表面积为 50cm<sup>2</sup> 的样品所萃取出来的溶液中的六价铬的浓度小于 0.02mg/kg

Note: **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 50cm<sup>2</sup> sample surface area used.

备注: 报告编号中“E”表示此报告为中英文对照版本。

Remark: **The end sign of report number E represents the bilingual version.**

# 检测报告 Test Report

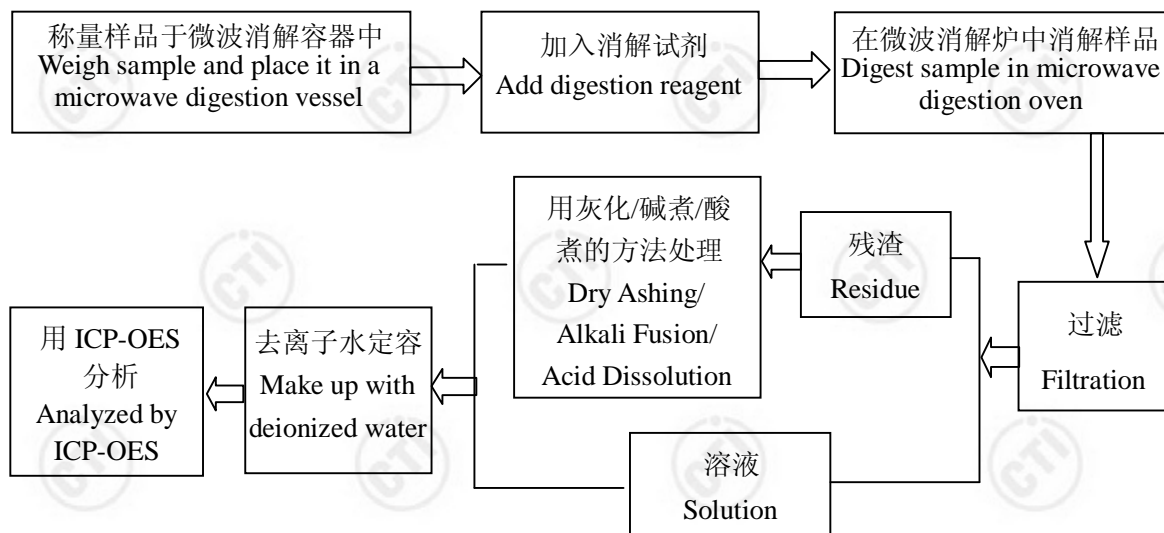
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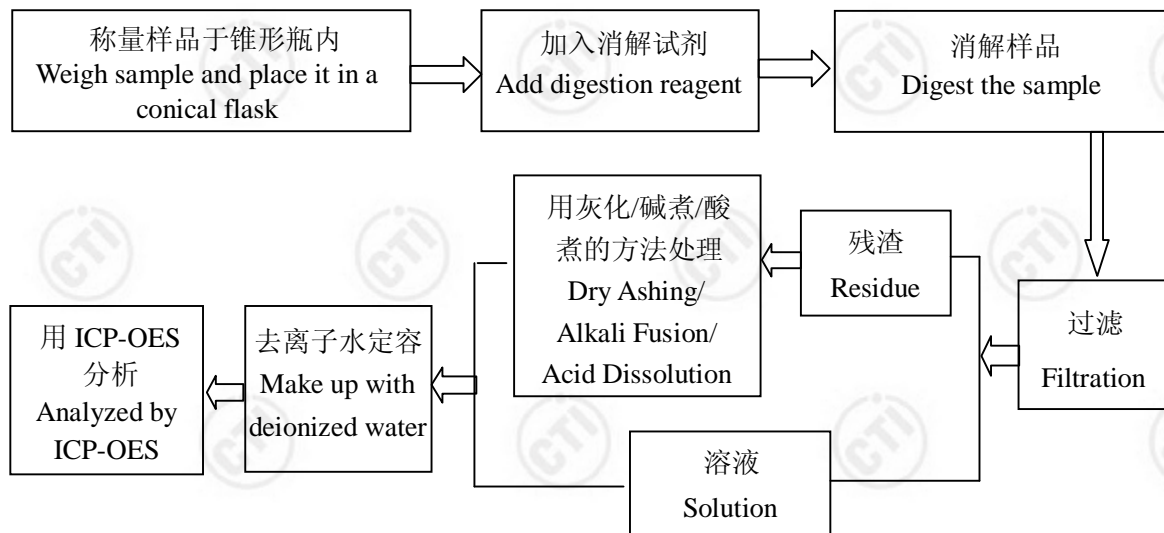
## 检测流程 Test Process

### 1. 铅 Lead(Pb), 镉 Cadmium(Cd)

#### (1) IEC 62321:2008 Ed.1 Sec.8



#### (2) IEC 62321:2008 Ed.1 Sec.9

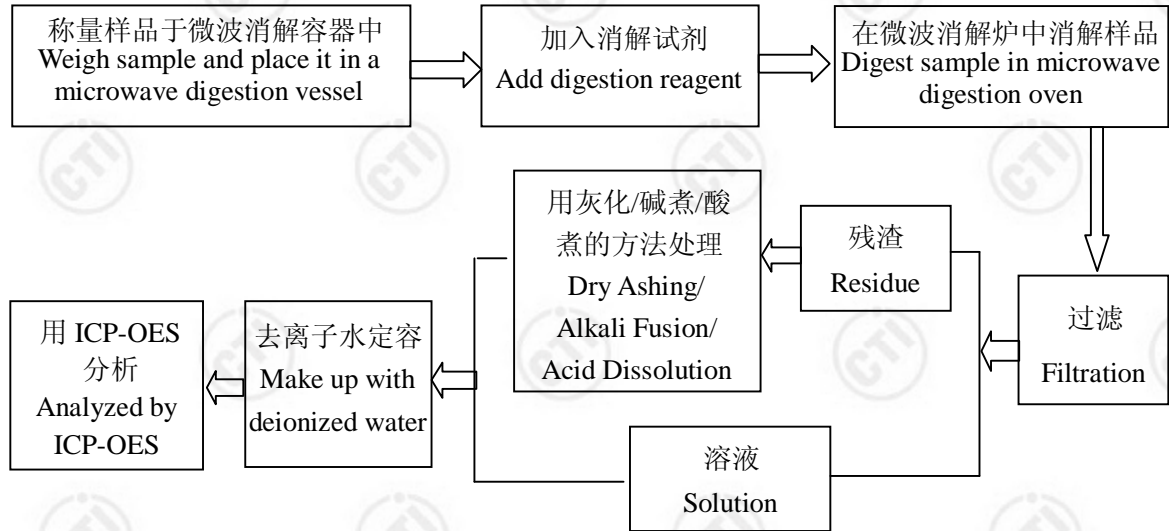


# 检测报告 Test Report

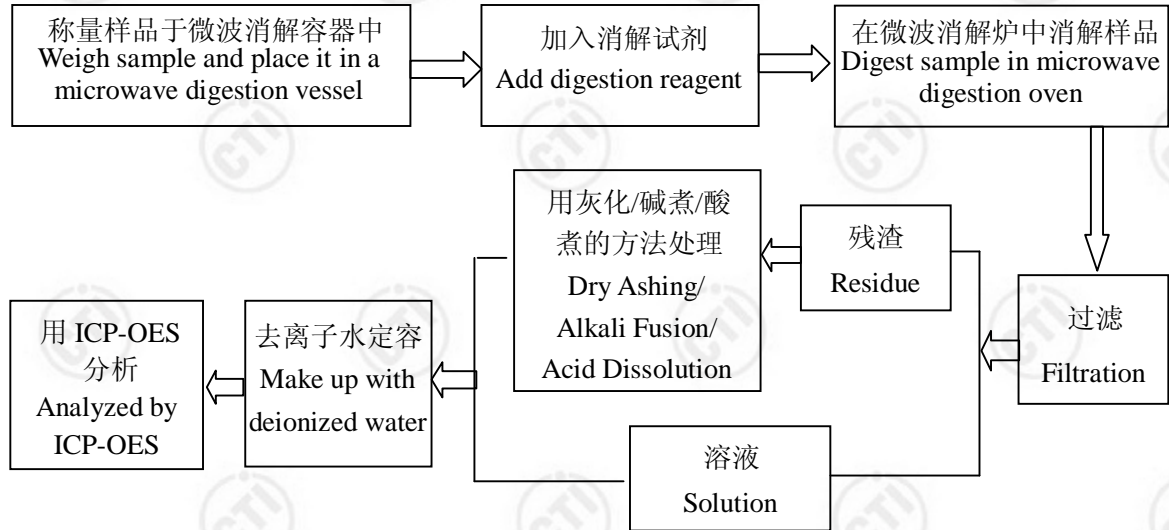
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**(3) IEC 62321:2008 Ed.1 Sec.10**



**2. 汞 Mercury(Hg)**



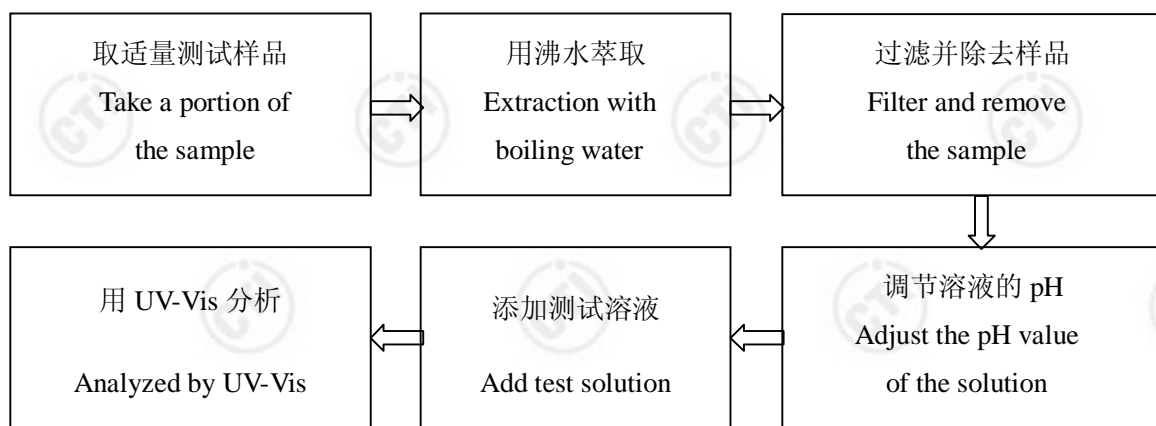
# 检测报告 Test Report

报告编号 RHS01F017272E  
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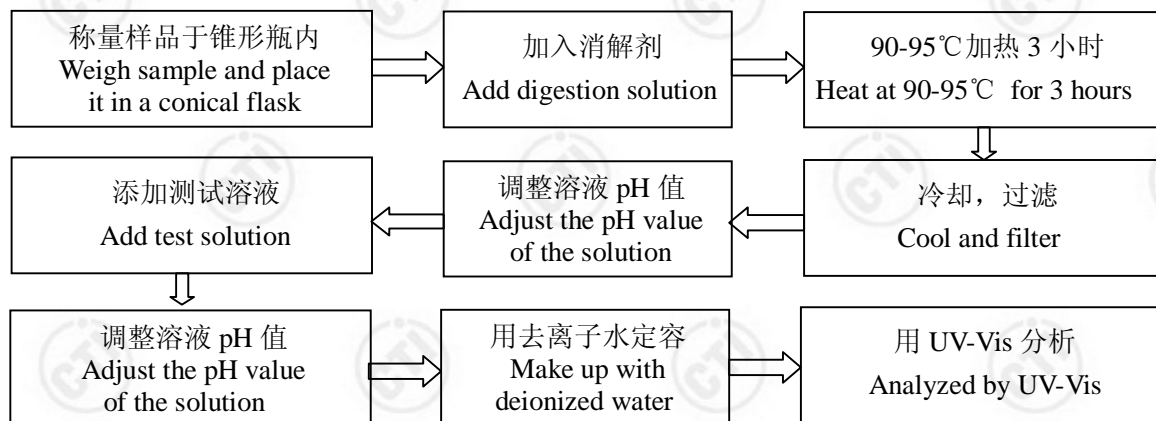
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## 3. 六价铬 Hexavalent Chromium (Cr(VI))

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



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

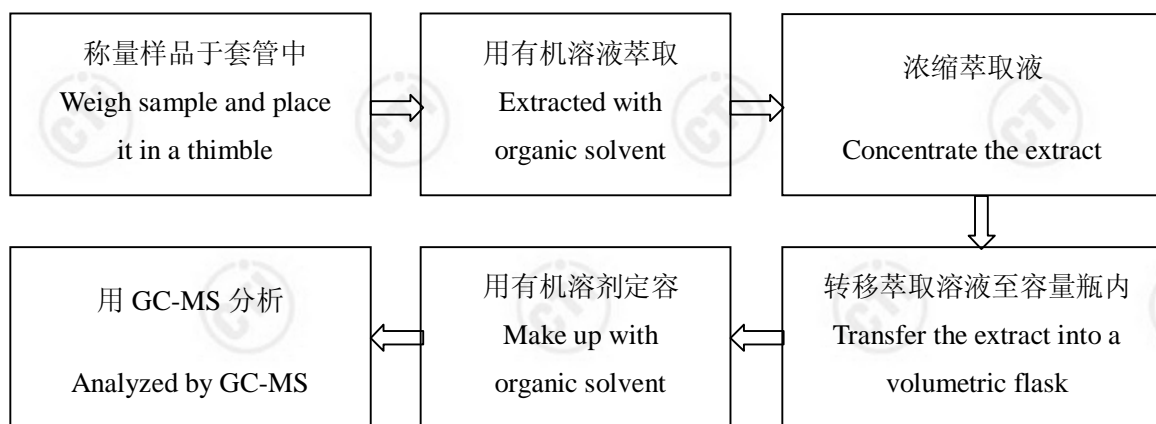


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## 4. 多溴联苯 Polybrominated Biphenyls(PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)



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## 样品图片

### Photo(s) of the sample(s)

(1)



(2)



(3)



(4)



(5)



(6)



# 检测报告 Test Report

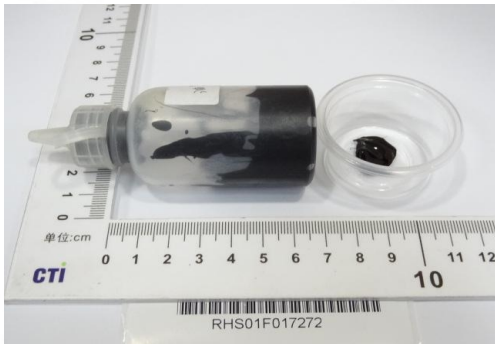
报告编号 RHS01F017272E  
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## 样品图片

### Photo(s) of the sample(s)

(7)



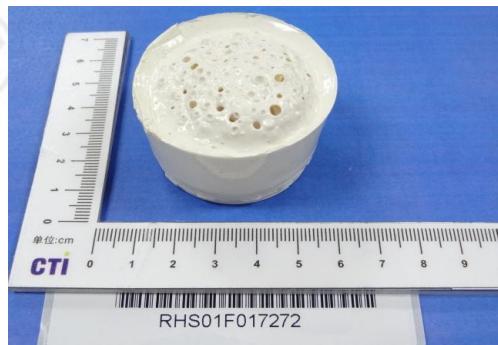
(8)



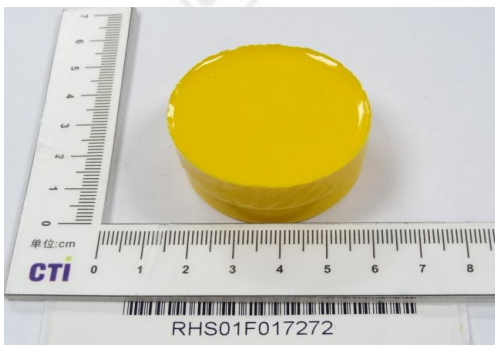
(9)



(10)



(11)



(12)





# 检测报告 Test Report

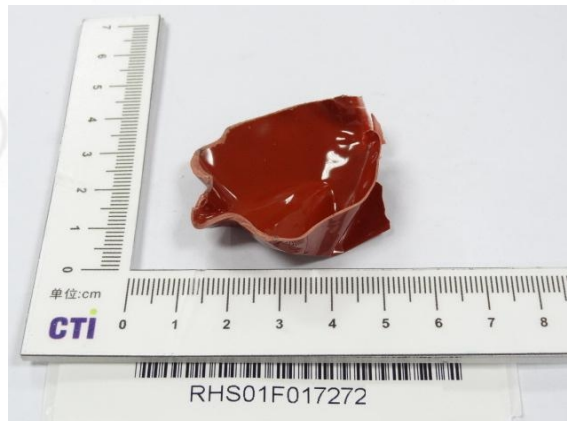
报告编号 RHS01F017272E  
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样品图片

Photo(s) of the sample(s)

(13)



(14)



\*\*\* 报告结束 \*\*\*  
\*\*\* End of Report \*\*\*

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