



# 检测报告 Test Report

报告编号 A2230338474101001E  
Report No. A2230338474101001E

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报告抬头公司名称 扬州升阳电子有限公司  
**Company Name** YANGZHOU SHENGYANG ELECTRONICS CO.,LTD.  
**shown on Report**  
地址 高邮市北开发区长兴路  
**Address** CHANGXING ROAD,NORTH DEVELOPMENT ZONE,GAOYOU CITY,JIANGSU  
PROVINCE,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 导电高分子型固态铝电解电容器  
**Sample Name** Conductive polymer aluminum solid capacitors  
样品接收日期 2023.07.11  
**Sample Received Date** Jul. 11, 2023  
样品检测日期 2023.07.11-2023.07.20  
**Testing Period** Jul. 11, 2023 to Jul. 20, 2023

**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).

批准

Approved by

陈凯敏

陈凯敏

实验室经理 Lab Manager

日期

Date

2023.07.21

上海华测检测技术有限公司

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

No. R201802041

上海市闵行区万芳路 1351 号

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

# 检测报告

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### 测试摘要 Executive Summary:

#### 测试要求

#### **TEST REQUEST**

1. 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)
  - 短链氯化石蜡  
Short Chain Chlorinated Paraffins (SCCPs)
  - 五氯苯  
Pentachlorobenzene
  - 六氯苯  
Hexachlorobenzene
  - 六溴联苯  
Hexabromobiphenyl
  - 多氯联苯  
Polychlorinated Biphenyls(PCBs)
  - 多氯化萘  
Polychlorinated Naphthalenes (PCNs)
  - 六氯丁二烯  
Hexachlorobutadiene (HCBD)
  - 五氯苯酚及其盐和酯  
Pentachlorophenol and its salts and esters
2. 美国环保署有毒物质控制法(TSCA)第 6(h)部分关于持久性、生物累积性和毒性(PBT)化学物质的管控  
Persistent, Bioaccumulative, and Toxic (PBT) Chemicals under US EPA Toxic Substances Control Act (TSCA) Section 6(h)
  - 十溴二苯醚  
Decabromodiphenyl Ether (DecaBDE)
  - 异丙基化磷酸三苯酯  
Phenol, Isopropylated Phosphate (PIP (3:1))
  - 2,4,6-三叔丁基苯酚  
2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP)
  - 六氯丁二烯  
Hexachlorobutadiene (HCBD)

#### 测试结果

#### **CONCLUSION**

见结果页  
See test result(s)  
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符合  
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PASS

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-	五氯苯硫酚 Pentachlorothiophenol (PCTP)	符合 PASS
3.	欧盟法规 (EC) No.1907/2006 (REACH)附录 17 及其修订案 Annex XVII of European regulation (EC) No. 1907/2006 (REACH) with Amendment(s) 玩具和儿童护理品中的邻苯二甲酸酯 (盐) - Phthalates in toys and childcare articles 砷 - Arsenic(As)	符合 PASS 见结果页 See test result(s)
4.	(1) 根据欧盟 RoHS 指令 2011/65/EU 及其修订指令(EU) 2015/863 及客户要求, 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。 According to RoHS Directive 2011/65/EU with amendment (EU) 2015/863 and 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). (2) 根据客户要求, 对所提交样品中的氯(Cl), 溴(Br), 全氟辛烷磺酸(PFOS)进行测试。 As specified by client, to test Chlorine (Cl), Bromine (Br), Perfluorooctane Sulfonates(PFOS) in the submitted sample(s). (3) 根据客户要求, 对所提交样品中的氟(F), 碘(I), 锑(Sb), 六溴环十二烷(HBCDD), 全氟辛酸(PFOA)多环芳烃(PAHs), 红磷进行测试。 As specified by client, to test Fluorine (F), Iodine (I), Antimony(Sb), Hexabromocyclododecane (HBCDD), Perfluorooctanoic Acid(PFOA), Polycyclic Aromatic Hydrocarbons (PAHs), Red phosphorus in the submitted sample(s).	见结果页 See test result(s) 符合 PASS 见结果页 See test result(s)

\*\*\*\*\*详细结果, 请见下页\*\*\*\*\*

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

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### 1.1 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)

测试方法: IEC 62321-6:2015; 测试仪器: GC-MS

Test Method: IEC 62321-6:2015; Test Equipment: 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)
	011		
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.	--	500

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

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

测试方法: 参考 US EPA 3540C:1996 & US EPA 8270E:2018; 测试仪器: GC-MS(NCI)

Test Method: Refer to US EPA 3540C:1996 & US EPA 8270E:2018; Test Equipment: 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)
	011		
短链氯化石蜡 Short Chain Chlorinated Paraffins (SCCPs)	N.D.	100	1500

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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 Pentachlorobenzene**

测试方法: 参考 US EPA 3550C:2007 & US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 & US EPA 8270E:2018; Test Equipment: 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)
	011		
五氯苯 Pentachlorobenzene	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

▼ **六氯苯 Hexachlorobenzene**

测试方法: 参考 US EPA 3550C:2007 & US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 & US EPA 8270E:2018; Test Equipment: 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)
	011		
六氯苯 Hexachlorobenzene	N.D.	5	10

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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## ▼ 六溴联苯 Hexabromobiphenyl

测试方法: IEC 62321-6:2015; 测试仪器: GC-MS

Test Method: IEC 62321-6:2015; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限	限值 Limit
	011	MDL(mg/kg)	(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)

测试方法: 参考 US EPA 3550C:2007 &amp; US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 &amp; US EPA 8270E:2018; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限	限值 Limit
	011	MDL(mg/kg)	(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

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### ▼多氯化萘 Polychlorinated Naphthalenes (PCNs)

测试方法: 参考 US EPA 3550C:2007 & US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 & US EPA 8270E:2018; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限	限值 Limit
	011	MDL(mg/kg)	(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 (HCBD)

测试方法: 参考 US EPA 3550C:2007 & US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 & US EPA 8270E:2018; Test Equipment: GC-MS

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

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

测试方法: 参考 ISO 17070:2015; 测试仪器: GC-MS

Test Method: Refer to ISO 17070:2015; Test Equipment: 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)
	011		
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.

2.1 美国环保署有毒物质控制法(TSCA)第 6(h)部分关于持久性、生物累积性和毒性(PBT)化学物质的管控  
Persistent, Bioaccumulative, and Toxic (PBT) Chemicals under US EPA Toxic Substances Control Act (TSCA) Section 6(h)

## ▼ 十溴二苯醚 Decabromodiphenyl Ether (DecaBDE)

测试方法: 参考 US EPA 3550C:2007 & US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 & US EPA 8270E:2018; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)			报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	012	013	014		
十溴二苯醚 Decabromodiphenyl Ether (DecaBDE)	N.D.	N.D.	N.D.	5	N.D.



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测试项目 Tested Item(s)	结果 Result (mg/kg)		报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	015	016		
十溴二苯醚 Decabromodiphenyl Ether (DecaBDE)	N.D.	N.D.	5	N.D.

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

## ▼ 异丙基化磷酸三苯酯 Phenol, Isopropylated Phosphate (PIP (3:1))

测试方法: 参考 US EPA 3550C:2007 &amp; US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 &amp; US EPA 8270E:2018; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)			报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	012	013	014		
异丙基化磷酸三苯酯 Phenol, Isopropylated Phosphate (PIP (3:1))	N.D.	N.D.	N.D.	5	N.D.

测试项目 Tested Item(s)	结果 Result (mg/kg)		报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	015	016		
异丙基化磷酸三苯酯 Phenol, Isopropylated Phosphate (PIP (3:1))	N.D.	N.D.	5	N.D.

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

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## ▼ 2,4,6-三叔丁基苯酚 2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP)

测试方法: 参考 US EPA 3550C:2007 &amp; US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 &amp; US EPA 8270E:2018; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)			报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	012	013	014		
2,4,6-三叔丁基苯酚 2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP)	N.D.	N.D.	N.D.	5	3000

测试项目 Tested Item(s)	结果 Result (mg/kg)		报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	015	016		
2,4,6-三叔丁基苯酚 2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP)	N.D.	N.D.	5	3000

备注 Remark:

- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million

## ▼ 六氯丁二烯 Hexachlorobutadiene (HCBd)

测试方法: 参考 US EPA 3550C:2007 &amp; US EPA 8270E:2018; 测试仪器: GC-MS

Test Method: Refer to US EPA 3550C:2007 &amp; US EPA 8270E:2018; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)			报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	012	013	014		
六氯丁二烯 Hexachlorobutadiene (HCBd)	N.D.	N.D.	N.D.	5	N.D.

测试项目 Tested Item(s)	结果 Result (mg/kg)		报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	015	016		
六氯丁二烯 Hexachlorobutadiene (HCBd)	N.D.	N.D.	5	N.D.

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备注 Remark:  
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- mg/kg = ppm = 百万分之一 parts per million

▼五氯苯硫酚 Pentachlorothiophenol (PCTP)

测试方法: 参考 US EPA 3550C:2007 & US EPA 8270E:2018; 测试仪器: GC-MS  
Test Method: Refer to US EPA 3550C:2007 & US EPA 8270E:2018; Test Equipment: GC-MS

测试项目 Tested Item(s)	结果 Result (mg/kg)			报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	012	013	014		
五氯苯硫酚 Pentachlorothiophenol (PCTP)	N.D.	N.D.	N.D.	5	10000

测试项目 Tested Item(s)	结果 Result (mg/kg)		报告检出限 Report Limit(mg/kg)	限值 Limit (mg/kg)
	015	016		
五氯苯硫酚 Pentachlorothiophenol (PCTP)	N.D.	N.D.	5	10000

备注 Remark:  
- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)  
- mg/kg = ppm = 百万分之一 parts per million

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### 欧盟法规 (EC) No.1907/2006 (REACH)附录 17 及其修订案

### Annex XVII of European regulation (EC) No. 1907/2006 (REACH) with Amendment(s)

#### ▼ 玩具和儿童护理品中的邻苯二甲酸酯 (盐)

#### Phthalates in toys and childcare articles

根据欧盟法规 (EC) No.1907/2006 (REACH) 附录 17 及修订案(EU) No.552/2009 & No 2015/326 的条目 51 和 52, 使用方法 EN 14372:2004, 通过 GC-MS 分析。

As specified in entry 51 & entry 52, annex XVII of European regulation (EC) No. 1907/2006 (REACH) with amendments No.552/2009 & No 2015/326, method(s) EN 14372:2004 was/were used, and the item(s) was/were analyzed by GC-MS.

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL	客户限值 Client's Limit
	001	002	003		
邻苯二甲酸酯 Phthalates					
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg	--
总和 Total (DBP+ BBP+ DEHP+ DIBP)	N.D.	N.D.	N.D.	--	<1000 mg/kg
邻苯二甲酸二正辛酯 Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二异壬酯 Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	N.D.	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.	N.D.	N.D.	50 mg/kg	--
总和 Total (DNOP+ DINP+ DIDP)	N.D.	N.D.	N.D.	--	<1000 mg/kg
客户对其它邻苯二甲酸酯(盐)的附加要求 Client's additional requirement on other phthalate(s)					

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测试项目 Tested Item(s)	结果 Result			方法检出限 MDL	客户限值 Client's Limit
	001	002	003		
邻苯二甲酸酯 Phthalates					
邻苯二甲酸二甲酯 Dimethyl phthalate (DMP) CAS#:131-11-3	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二乙酯 Diethyl phthalate (DEP) CAS#:84-66-2	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二丙酯 Dipropyl phthalate (DPrP) CAS#:131-16-8	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二戊酯 Dipentyl phthalate (DPP) CAS#:131-18-0	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二环己酯 Dicyclohexyl phthalate (DCHP) CAS#:84-61-7	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二异辛酯 Diisooctyl phthalate (DIOP) CAS#:27554-26-3	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二壬酯 Dinonyl phthalate (DNP) CAS#:84-76-4	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二己酯 Di-n-hexyl phthalate (DNHP) CAS#:84-75-3	N.D.	N.D.	N.D.	50 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.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二异戊酯 Diisopentylphthalate (DIPP) CAS#:605-50-5	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二苄酯 Dibenzyl phthalate (DBzP) CAS#:523-31-9	N.D.	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二苯酯 Diphenyl phthalate (DPhP) CAS#:84-62-8	N.D.	N.D.	N.D.	50 mg/kg	--
己二甲酸二乙基己基酯 Di(2-ethylhexyl) Adipate (DEHA) CAS#:103-23-1	N.D.	N.D.	N.D.	50 mg/kg	--
*邻苯二甲酸烷基酯(C7-11 支型和线性结构) 1,2-Benzenedicarboxylic acid, di-(C7-11)-branched and linear alkyl esters (DHNUP) CAS#:68515-42-4	N.D.	N.D.	N.D.	100 mg/kg	--

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测试项目 Tested Item(s)	结果 Result			方法检出限 MDL	客户限值 Client's Limit
	001	002	003		
邻苯二甲酸酯 Phthalates					
*邻苯二甲酸烷基酯(C6-8 支型结构,C7 富集) 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) CAS#:71888-89-6	N.D.	N.D.	N.D.	100 mg/kg	--
邻苯二甲酸二异己酯 Di-iso-hexyl-phthalates (DIHxP) CAS#:71850-09-4	N.D.	N.D.	N.D.	50 mg/kg	--

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL	客户限值 Client's Limit
	004	005		
邻苯二甲酸酯 Phthalates				
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	50 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	--
总和 Total (DBP+ BBP+ DEHP+ DIBP)	N.D.	N.D.	--	<1000 mg/kg
邻苯二甲酸二正辛酯 Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二异壬酯 Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	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.	N.D.	50 mg/kg	--
总和 Total (DNOP+ DINP+ DIDP)	N.D.	N.D.	--	<1000 mg/kg
客户对其它邻苯二甲酸酯(盐)的附加要求 Client's additional requirement on other phthalate(s)				

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测试项目 Tested Item(s)	结果 Result		方法检出限 MDL	客户限值 Client's Limit
	004	005		
邻苯二甲酸酯 Phthalates				
邻苯二甲酸二甲酯 Dimethyl phthalate (DMP) CAS#:131-11-3	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二乙酯 Diethyl phthalate (DEP) CAS#:84-66-2	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二丙酯 Dipropyl phthalate (DPrP) CAS#:131-16-8	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二戊酯 Dipentyl phthalate (DPP) CAS#:131-18-0	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二环己酯 Dicyclohexyl phthalate (DCHP) CAS#:84-61-7	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二异辛酯 Diisooctyl phthalate (DIOP) CAS#:27554-26-3	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二壬酯 Dinonyl phthalate (DNP) CAS#:84-76-4	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二己酯 Di-n-hexyl phthalate (DNHP) CAS#:84-75-3	N.D.	N.D.	50 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.	N.D.	50 mg/kg	--
邻苯二甲酸二异戊酯 Diisopentylphthalate (DIPP) CAS#:605-50-5	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二苄酯 Dibenzyl phthalate (DBzP) CAS#:523-31-9	N.D.	N.D.	50 mg/kg	--
邻苯二甲酸二苯酯 Diphenyl phthalate (DPhP) CAS#:84-62-8	N.D.	N.D.	50 mg/kg	--
己二甲酸二乙基己基酯 Di(2-ethylhexyl) Adipate (DEHA) CAS#:103-23-1	N.D.	N.D.	50 mg/kg	--
*邻苯二甲酸烷基酯(C7-11 支型和线性结构) 1,2-Benzenedicarboxylic acid, di-(C7-11)-branched and linear alkyl esters (DHNUP) CAS#:68515-42-4	N.D.	N.D.	100 mg/kg	--

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测试项目 Tested Item(s)	结果 Result		方法检出限 MDL	客户限值 Client's Limit
	004	005		
邻苯二甲酸酯 Phthalates				
*邻苯二甲酸烷基酯(C6-8 支型结构,C7 富集) 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) CAS#:71888-89-6	N.D.	N.D.	100 mg/kg	--
邻苯二甲酸二异己酯 Di-iso-hexyl-phthalates (DIHxP) CAS#:71850-09-4	N.D.	N.D.	50 mg/kg	--

### 备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于报告检出限<Report Limit)
- mg/kg = ppm = 百万分之一 parts per million
- -1000 mg/kg = 0.1%
- -=由于这些物质是 UVCB 物质(未知成分或可变成成分的, 复杂反应物或生物材料的物质), 由各种不同的成分组成, 所以这些物质的测试结果是由选定的具有代表性的物质的主要组成成分的测试结果换算而来的。  
-\*=In view of the substances are established as UVCB substances (substances of unknown or variable composition, complex reaction products or biological materials) consisting of different and variable constituents, the test results are calculated based on the main constituents of the representative compounds for substances.

### ▼ 砷 Arsenic(As)

根据欧盟法规 (EC) No.1907/2006 (REACH) 附录 17 及修订案 No.552/2009 的条目 19, 使用方法参考 US EPA 3052:1996 & US EPA 6010D:2018, 通过 ICP-OES 分析。

As specified in entry 19, annex XVII of European regulation (EC) No. 1907/2006 (REACH)

with amendment No.552/2009, Refer to method(s) US EPA 3052:1996 & US EPA 6010D:2018, and the item(s) was/were analyzed by ICP-OES.

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
砷 Arsenic (As)	N.D.	N.D.	N.D.	10 mg/kg



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测试项目 Tested Item(s)	结果 Result		方法检出限 MDL
	004	005	
砷 Arsenic (As)	N.D.	N.D.	10 mg/kg

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

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	白色电解纸 White electrolytic paper
2	002	黑色液体 Black liquid
3	003	红色油墨 Red ink
4	004	黑色橡胶 Black rubber
5	005	白色颗粒 White grains
6	011	电子元器件（整体混合测试） Electronic components(Mix all)
7	012	白色电解纸 White electrolytic paper
8	013	黑色液体 Black liquid
9	014	红色油墨 Red ink
10	015	黑色橡胶 Black rubber
11	016	白色颗粒 White grains

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备注 Remark:

- 根据客户要求，对样品进行整体混合测试，测试结果不代表样品中任何一种单一材质的含量。As specified by client, the test was conducted by mixing all materials together. The result(s) shown on this report may be different from the content of any homogeneous material.

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### 4.1 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 62321-7-1:2015	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
锑 Antimony (Sb)	参考 US EPA 3052:1996 & US EPA 6010D:2018 Refer to US EPA 3052:1996 & 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/LC-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/LC-MS
红磷 Red phosphorus	参考 GB/T 6040-2002, GB/T 9722-2006, GB/T 17359-2012, EPA 6010D:2014 Refer to GB/T 6040-2002, GB/T 9722-2006, GB/T 17359-2012, EPA 6010D:2014	ICP-OES, PY-GC-MS, FTIR, EM
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)	AfPS GS 2019:01 PAK	GC-MS

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4.2 检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
铅 Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	N.D.	8 mg/kg
	--	--	--	0.10 µg/cm ²(LOQ)

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	004	005	006	
铅 Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	--	8 mg/kg
	--	--	N.D.▼	0.10 µg/cm ²(LOQ)

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	007	008	009	
铅 Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	--	--	--	8 mg/kg
	N.D.▼	N.D.▼	N.D.▼	0.10 µg/cm ²(LOQ)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	010	
铅 Lead (Pb)	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	--	8 mg/kg
	N.D.▼	0.10 μg/cm ²(LOQ)

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测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
多溴联苯 Polybrominated Biphenyls (PBBs)				
一溴联苯 Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
三溴联苯 Tribromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
四溴联苯 Tetrabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
五溴联苯 Pentabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
六溴联苯 Hexabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
七溴联苯 Heptabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
八溴联苯 Octabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
九溴联苯 Nonabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
十溴联苯 Decabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL
	004	005	
多溴联苯 Polybrominated Biphenyls (PBBs)			
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

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测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
多溴二苯醚 PolybrominatedDiphenyl Ethers (PBDEs)				
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
三溴二苯醚 Tribromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
五溴二苯醚 Pentabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
六溴二苯醚 Hexabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
七溴二苯醚 Heptabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
八溴二苯醚 Octabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
九溴二苯醚 Nonabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
十溴二苯醚 Decabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL
	004	005	
多溴二苯醚 PolybrominatedDiphenyl Ethers (PBDEs)			
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			方法检出限 MDL
	001	002	003	
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.	N.D.	N.D.	50 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL
	004	005	
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.	N.D.	50 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	50 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	50 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

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL	客户限值 Client's Limit
	001	002	003		
氯 Chlorine (Cl)	N.D.	352 mg/kg	109 mg/kg	10 mg/kg	<900 mg/kg
溴 Bromine (Br)	N.D.	N.D.	N.D.	10 mg/kg	<900 mg/kg
总计 (氯+溴) Total (Cl + Br )	N.D.	352 mg/kg	109 mg/kg	--	1500 mg/kg

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Table with 5 columns: Tested Item(s), Result (004, 005), MDL, Client's Limit. Rows include Chlorine (Cl), Bromine (Br), and Total (Cl + Br).

Table with 5 columns: Tested Item(s), Result (001, 002, 003), MDL, Client's Limit. Row includes PerfluorooctaneSulfonates (PFOS).

Table with 5 columns: Tested Item(s), Result (004, 005), MDL, Client's Limit. Row includes PerfluorooctaneSulfonates (PFOS).

Table with 5 columns: Tested Item(s), Result (001, 002, 003), MDL. Rows include Fluorine (F) and Iodine (I).

Table with 4 columns: Tested Item(s), Result (004, 005), MDL. Rows include Fluorine (F) and Iodine (I).

Table with 5 columns: Tested Item(s), Result (001, 002, 003), MDL. Row includes Antimony (Sb).

Table with 4 columns: Tested Item(s), Result (004, 005), MDL. Row includes Antimony (Sb).



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测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
六溴环十二烷 Hexabromocyclododecane (HBCDD)	N.D.	N.D.	N.D.	20 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL
	004	005	
六溴环十二烷 Hexabromocyclododecane (HBCDD)	N.D.	N.D.	20 mg/kg

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
全氟辛酸 Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	N.D.	0.010 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL
	004	005	
全氟辛酸 Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	0.010 mg/kg

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
红磷 Red phosphorus	N.D.	N.D.	N.D.	500 mg/kg

测试项目 Tested Item(s)	结果 Result		方法检出限 MDL
	004	005	
红磷 Red phosphorus	N.D.	N.D.	500 mg/kg

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测试项目 Tested Item(s)	结果 Result				方法检出限 MDL
	001	002	003	004	
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)					
萘 Naphthalene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
菲 Phenanthrene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
蒽 Anthracene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
荧蒽 Fluoranthene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
芘 Pyrene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
蒾 Chrysene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
苯并(a)蒽 Benzo(a)anthracene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
苯并(b)荧蒽 Benzo(b)fluoranthene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
苯并(k)荧蒽 Benzo(k)fluoranthene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
苯并(j)荧蒽 Benzo(j)fluoranthene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
苯并(a)芘 Benzo(a)pyrene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
苯并(e)芘 Benzo(e)pyrene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
二苯并(a,h)蒽 Dibenzo(a,h)anthracene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
苯并(g,h,i)花 Benzo(g,h,i)perylene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
茚并(1,2,3-cd)芘 Indenol(1,2,3-cd)pyrene	N.D.	N.D.	N.D.	N.D.	0.2 mg/kg
菲,蒽,荧蒽,芘总量 Sum (Phenanthrene, Anthracene, Fluoranthene, Pyrene)	N.D.	N.D.	N.D.	N.D.	/
15 PAHs 总量 Sum 15 PAHs	N.D.	N.D.	N.D.	N.D.	/

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测试项目 Tested Item(s)	结果 Result	方法检出限
	005	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
蒾 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)芘 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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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
蒽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)苉 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, 苉	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)

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	白色电解纸 White electrolytic paper
2	002	黑色液体 Black liquid
3	003	红色油墨 Red ink
4	004	黑色橡胶 Black rubber
5	005	白色颗粒 White grains
6	006	灰色铝箔 Grey aluminum foil
7	007	灰色铝箔 Grey aluminum foil
8	008	银色金属 Silvery metal
9	009	混测,银色金属 Mixed test, silvery metal
10	010	混测,有银色镀层的金属 Mixed test, metal with silvery plating

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**备注:** 对于检测铅, 镉, 汞, 锑之样品已消解完全。  
根据客户要求, 对样品进行混合测试, 测试结果不代表混合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  
-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。

**Remark:** The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Antimony.  
As specified by client, the test was conducted by mixing several samples together. 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  
-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.

**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

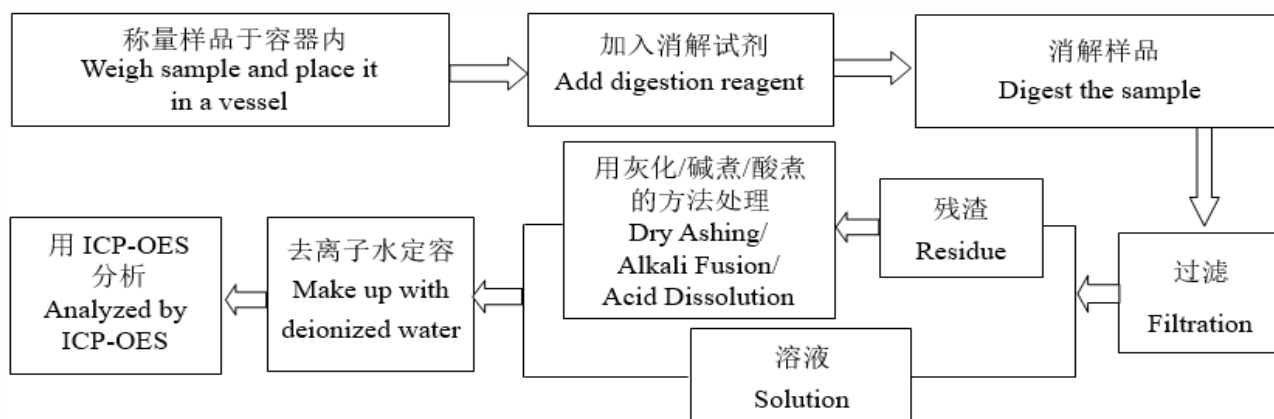
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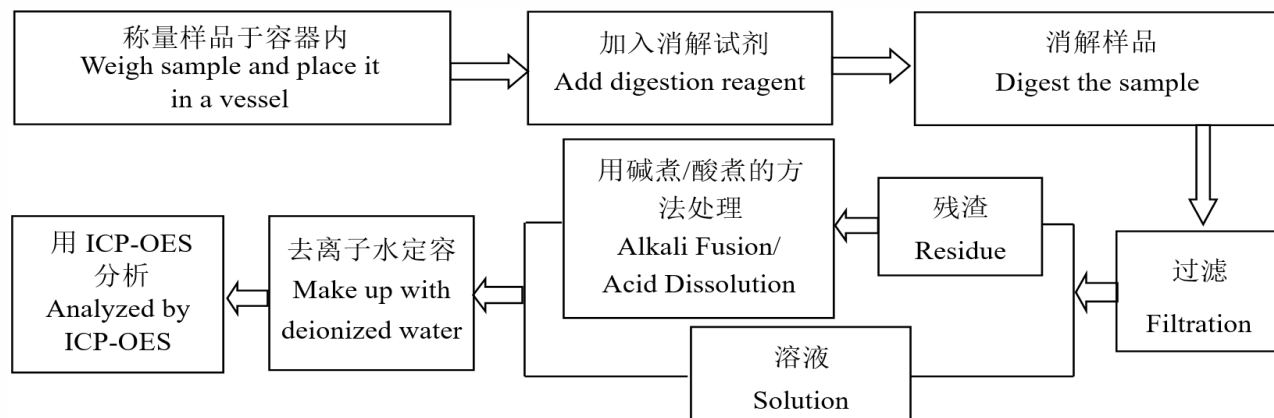
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### 4.3 检测流程 Test Process

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

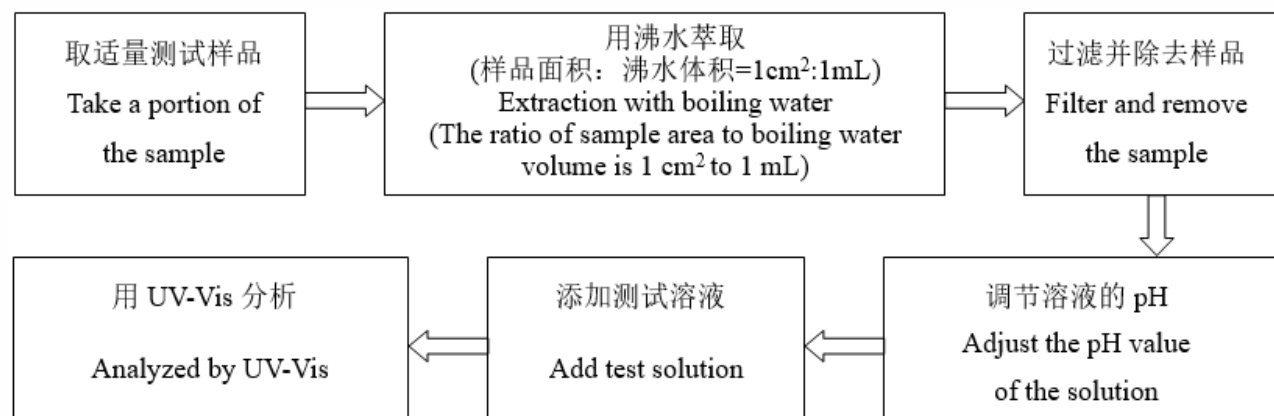


#### 4.3.2. 汞 Mercury (Hg)



#### 4.3.3. 六价铬 Hexavalent Chromium (Cr(VI))

##### (1) IEC 62321-7-1:2015

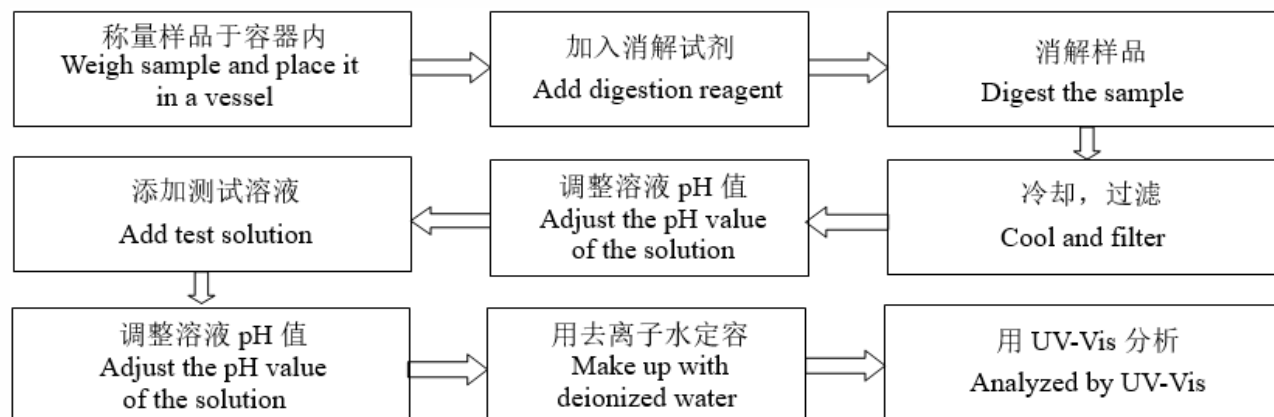


# 检测报告 Test Report

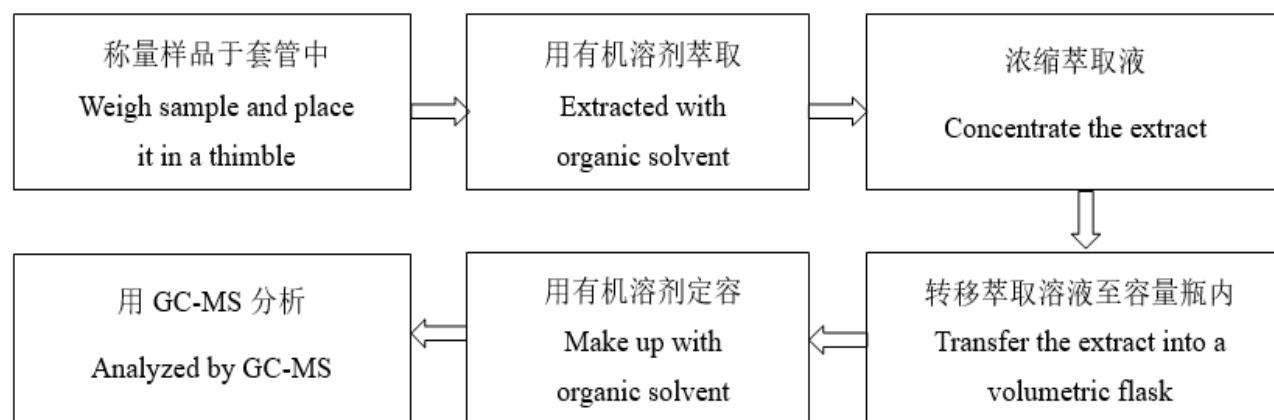
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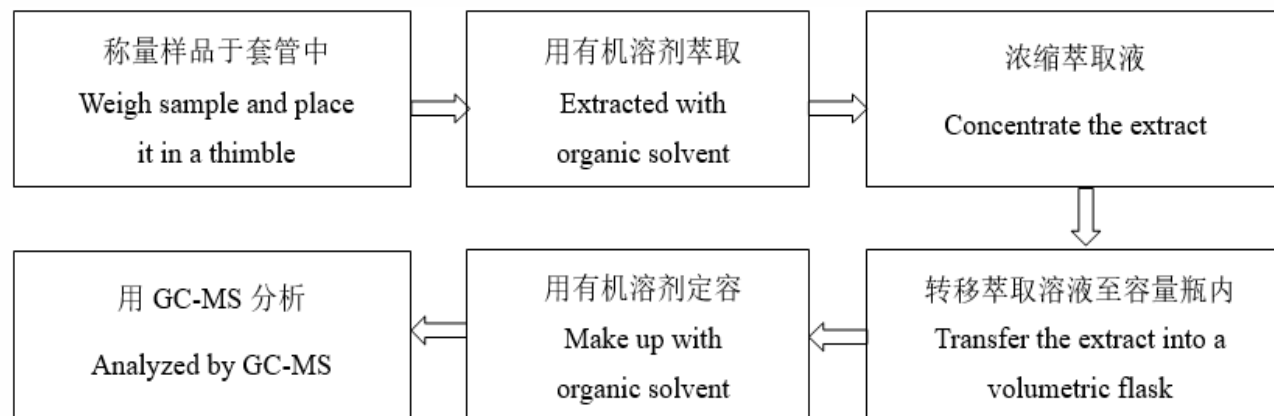
## (2) IEC 62321-7-2:2017



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



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



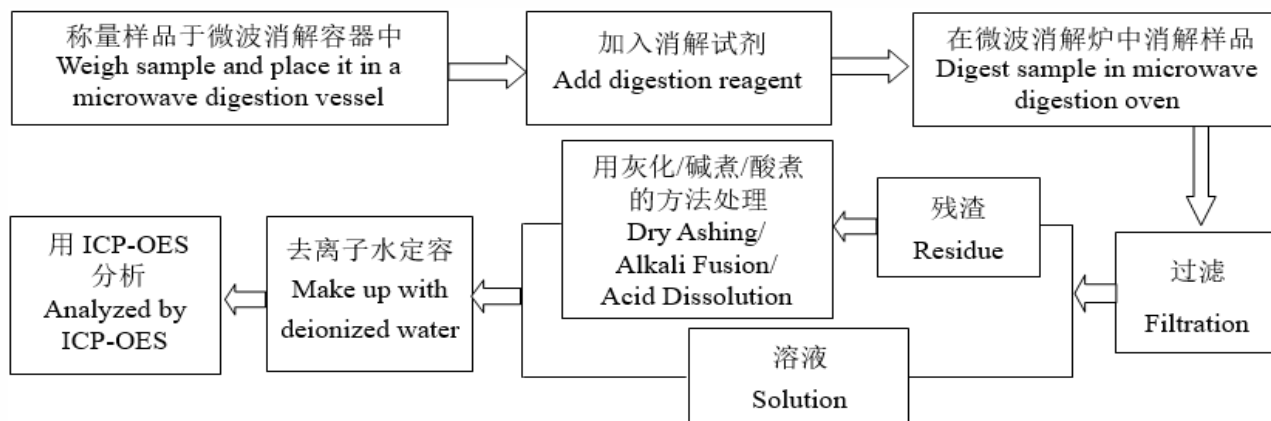


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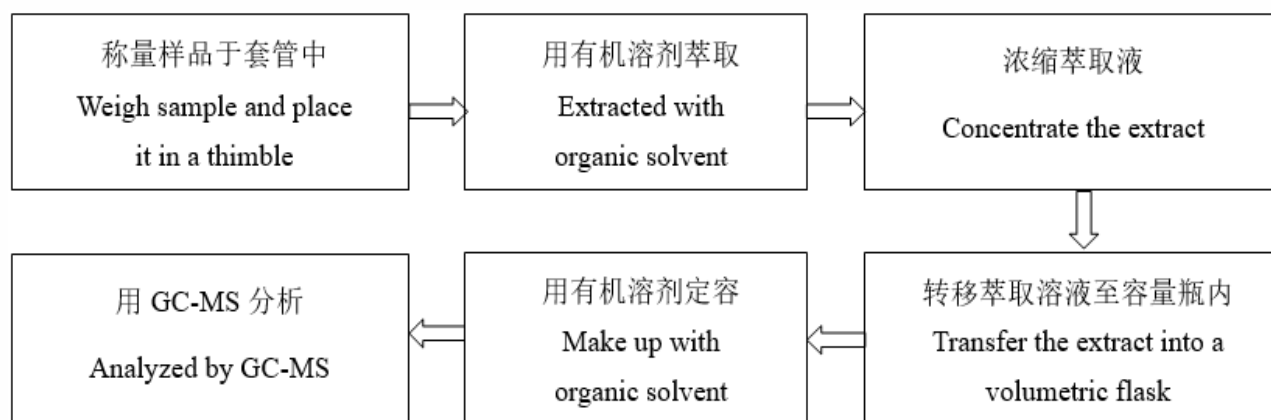
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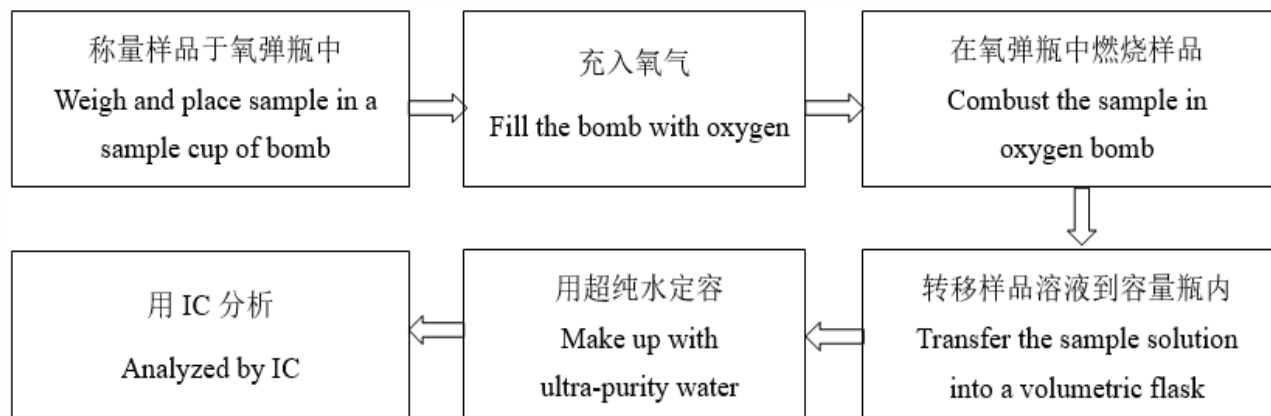
## 4.3.6. 锑 Antimony(Sb)



## 4.3.7. 六溴环十二烷 Hexabromocyclododecane (HBCDD)



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



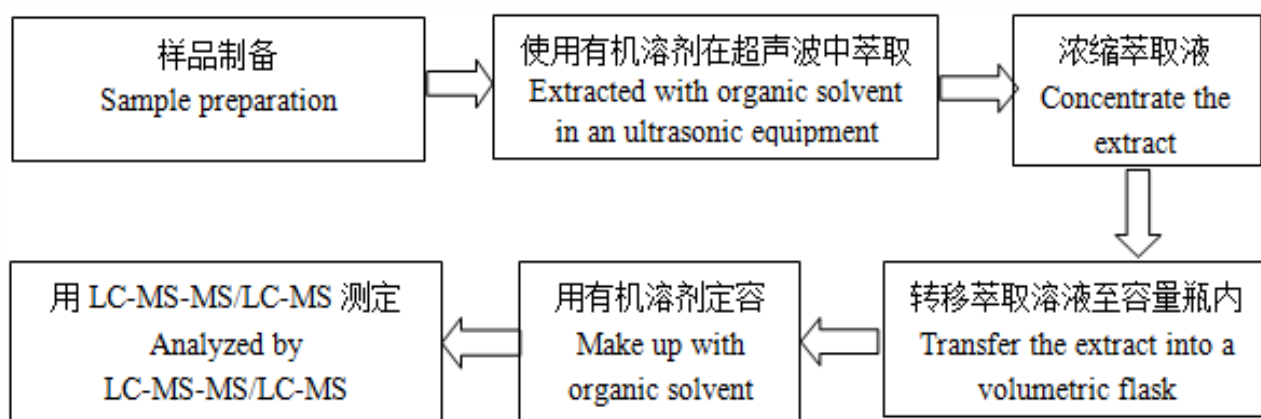
# 检测报告

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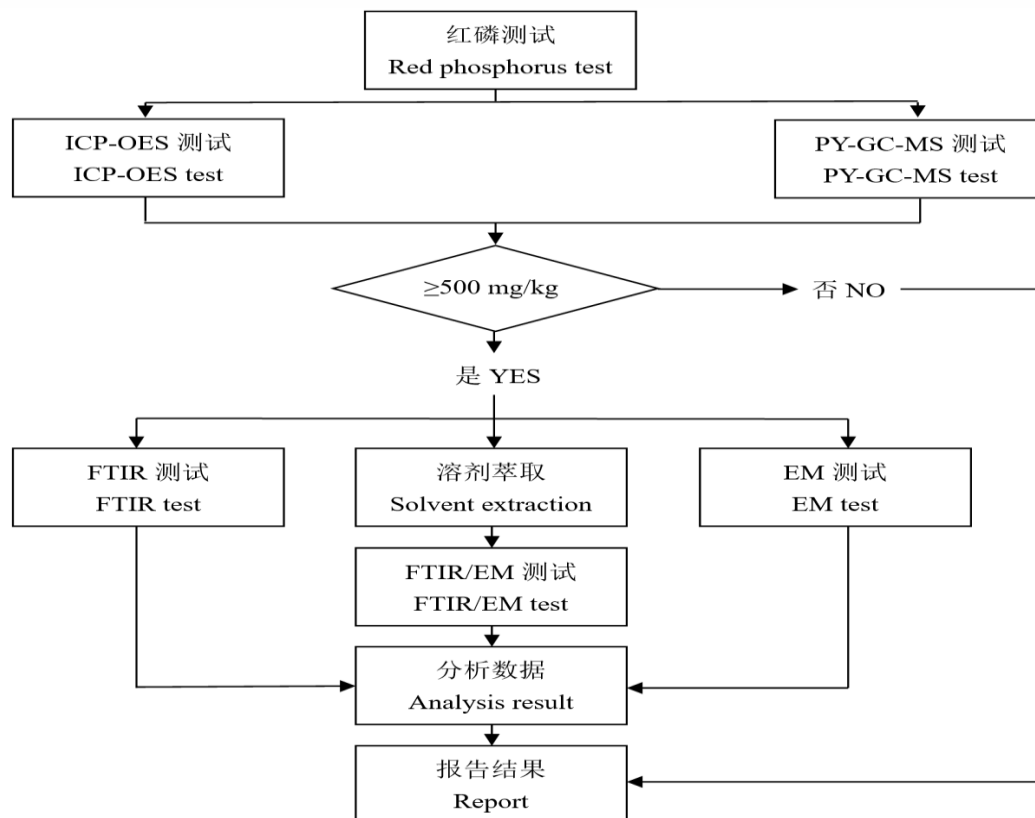
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### 4.3.9. 全氟辛烷磺酸(PFOS)PerfluorooctaneSulfonates(PFOS), 全氟辛酸(PFOA)PerfluorooctanoicAcid(PFOA)



### 4.3.10. 红磷 Red phosphorus

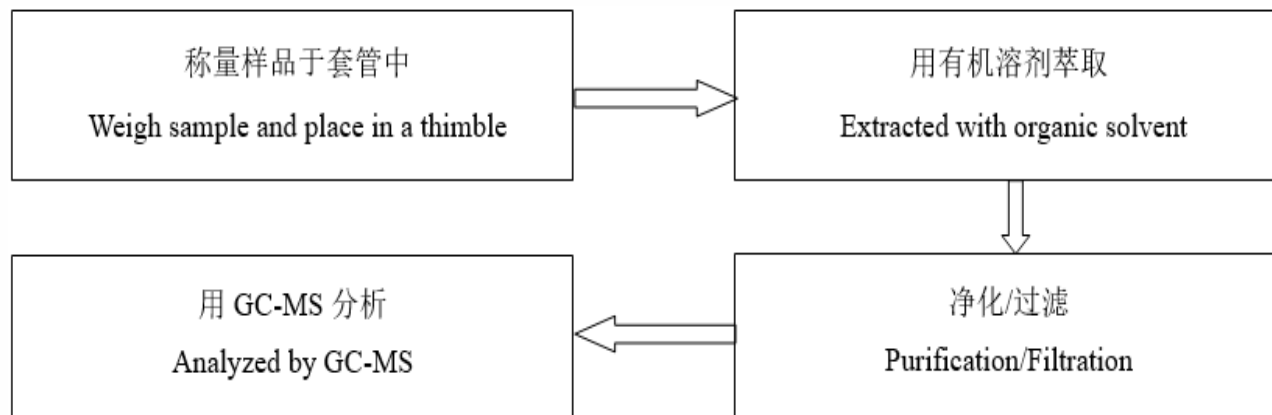


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## 4.3.11. 多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)



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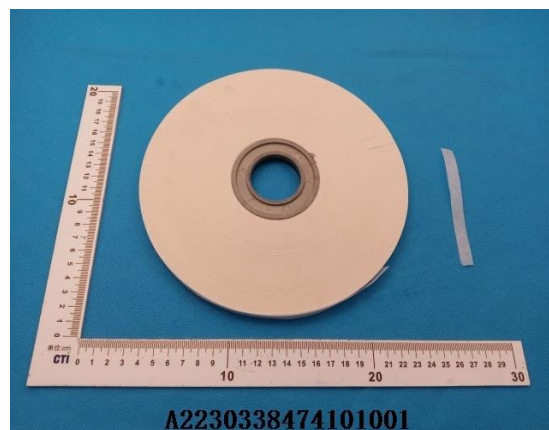
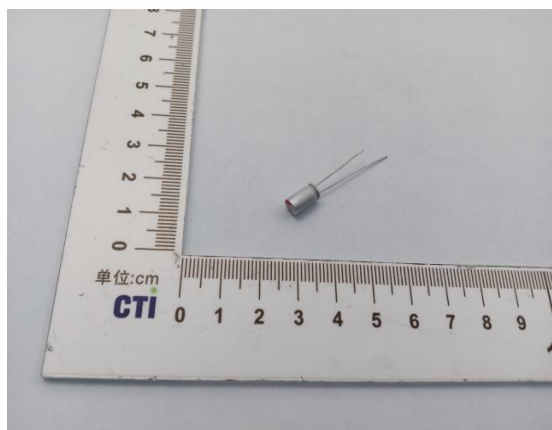
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## 样品图片

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

成品 Final Product (客户参考图片  
(非测试样品) Client Reference Photo (Non-tested  
sample))



A2230338474101001



A2230338474101002

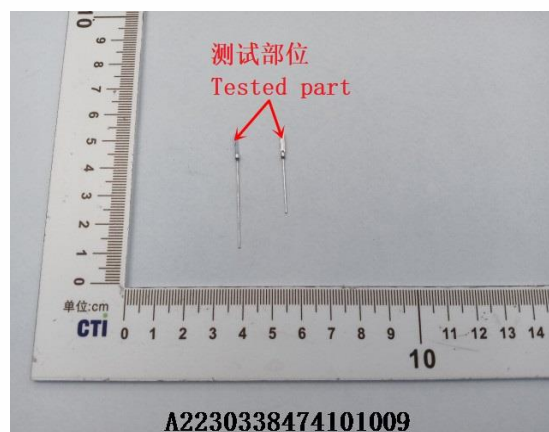
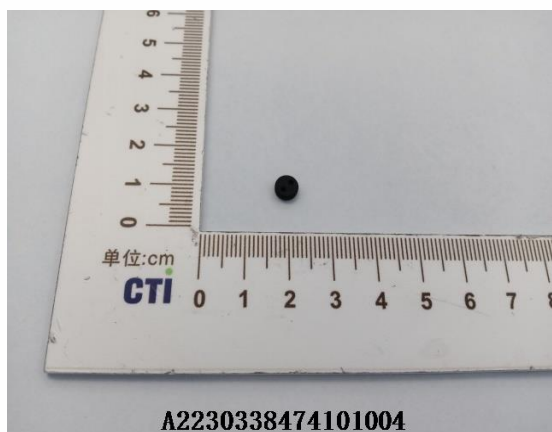


A2230338474101003

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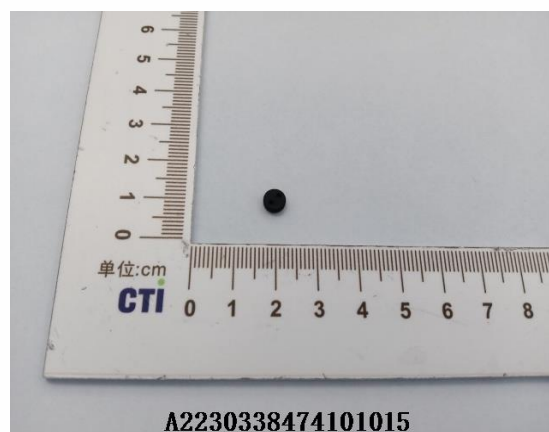
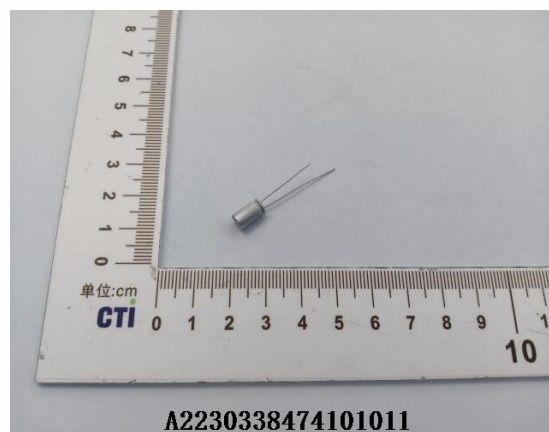




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## 声明 Statement:

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. 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 \*\*\*