



检测报告

Test Report

报告编号 A224049144110100102E
Report No. A224049144110100102E

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报告抬头公司名称 广东纽航电子科技有限公司

Company Name GUANGDONG NIUHANG ELECTRONIC TECHNOLOGY CO., LTD

shown on Report

地址 广东省东莞市东城街道樟村大园路 3 号 1 栋 301 室

Address 3RD FLOOR,BUILDING 1, NO.3 DAYUAN ROAD, ZHANGCUN,DONGCHENG
STREET, DONGGUAN CITY, GUANGDONG 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	GPP 芯片
Sample Name	GPP CHIP
样品接收日期	2024.08.14
Sample Received Date	Aug. 14, 2024
样品检测日期	2024.08.14-2024.08.23
Testing Period	Aug. 14, 2024 to Aug. 23, 2024

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).

日期
Date

2025.03.18



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授权签字人 Lab Authorized Signatory

No. R465027315

宁波高新区菁华路 76 号厂区东首第一、二层

Centre Testing International (Ningbo) Co., Ltd.

1-2F, Eastern Factory, No.76, Jinghua Road, High-Tech Zone, Ningbo, Zhejiang, China

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测试摘要 Executive Summary:

测试要求

TEST REQUEST

- (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, 对所提交样品中的多环芳烃(PAHs), 铍(Be), 锑(Sb), 氟(F), 氯(Cl), 溴(Br), 碘(I), 全氟辛酸(PFOA), 全氟辛烷磺酸(PFOS), 红磷进行测试。
As specified by client, to test Polycyclic Aromatic Hydrocarbons (PAHs), Beryllium(Be), Antimony(Sb), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctanoic Acid(PFOA), Perfluorooctane Sulfonates(PFOS), Red phosphorus in the submitted sample(s).
- 客户要求
Client's requirement
- 全氟己基磺酸(PFHxS)及其盐和相关物质
Perfluorohexane-1-sulphonic acid (PFHxS) and its salts & related substances

测试结果

CONCLUSION

符合

PASS

见结果页

See test result(s)

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*****详细结果, 请见下页*****

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

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1.1 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 62321-7-2:2017 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
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)	AfPS GS 2019:01 PAK	GC-MS
铍 Beryllium(Be)	参考 US EPA 3052:1996 & US EPA 6010D:2018* ¹ Refer to US EPA 3052:1996 & US EPA 6010D:2018* ¹	ICP-OES
锑 Antimony(Sb)	参考 US EPA 3052:1996 & US EPA 6010D:2018* ¹ Refer to US EPA 3052:1996 & US EPA 6010D:2018* ¹	ICP-OES
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
全氟辛酸 Perfluorooctanoic Acid(PFOA)	CEN/TS 15968:2010* ¹	LC-MS-MS
全氟辛烷磺酸 Perfluorooctane Sulfonates(PFOS)	CEN/TS 15968:2010* ¹	LC-MS-MS
红磷 Red phosphorus* ¹	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

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1.2 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		
铅 Lead (Pb)	25885 mg/kg ^{#1}	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	8 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.	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	

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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)			
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg
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

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
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
苯并(a)蒽 Benzo(a)anthracene	N.D.	0.2 mg/kg
䟰 Chrysene	N.D.	0.2 mg/kg
苯并(b)荧蒽 Benzo(b)fluoranthene	N.D.	0.2 mg/kg
苯并(j)荧蒽 Benzo(j)fluoranthene	N.D.	0.2 mg/kg
苯并(e)芘 Benzo(e)pyrene	N.D.	0.2 mg/kg
苯并(k)荧蒽 Benzo(k)fluoranthene	N.D.	0.2 mg/kg
苯并(a)芘 Benzo(a)pyrene	N.D.	0.2 mg/kg
茚并(1,2,3-cd)芘 Indeno(1,2,3-cd)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)䟰 Benzo(g,h,i)perylene	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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Table with 3 columns: Tested Item(s), Result, MDL. Row 1: Beryllium (Be), N.D., 10 mg/kg.

Table with 3 columns: Tested Item(s), Result, MDL. Row 1: Antimony (Sb), N.D., 5 mg/kg.

Table with 3 columns: Tested Item(s), Result, MDL. Rows 1-4: Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), all N.D., 10 mg/kg.

Table with 3 columns: Tested Item(s), Result, MDL. Row 1: Perfluorooctanoic Acid (PFOA), N.D., 0.01 mg/kg.

Table with 3 columns: Tested Item(s), Result, MDL. Row 1: Perfluorooctane Sulfonates (PFOS), N.D., 0.01 mg/kg.

Table with 3 columns: Tested Item(s), Result, MDL. Row 1: Red phosphorus*1, N.D., 500 mg/kg.

样品/部位描述 Sample/Part Description

Table with 3 columns: No., CTI Sample ID, Description. Row 1: 1, 001, Chip (Tested as a whole).

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备注: 对于检测铅, 镉, 汞, 铍, 锑之样品已消解完全。
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)
-mg/kg = ppm = 百万分之一
-1000 mg/kg = 0.1%
-^{#1}=根据客户声明, 样品涉及欧盟 RoHS 指令 2011/65/EU 豁免项第 7(c)-I 条: 电气电子元件的玻璃或陶瓷中的铅, 电容器的介电陶瓷除外, 如压电玻璃或陶瓷装置。
-根据客户声明, 本报告中的报告抬头公司名称与报告 A2240491441101001E 中的报告抬头公司名称为销售商与供应商的关系, 本报告的测试结果引用自报告 A2240491441101001E。

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Beryllium, Antimony. 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)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%
-^{#1}=According to the client's statement, the material of the sample(s) fall into exemption items 7(c)-I according to EU Directive 2011/65/EU: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.
-According to the client's statement, the Company Name shown on Report in this report and the Company Name shown on Report in the report A2240491441101001E are the marketing-supply relations, the test result(s) of this report is/are presented in reference to the result(s) that reported in A2240491441101001E.

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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

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菲,蒽,荧蒽,芘 Phenanthrene, Anthracene, Fluoranthene, Pyrene	总量 < 1 < 1 Sum	总量 < 5 < 5 Sum	总量 < 10 < 10 Sum	总量 < 20 < 20 Sum	总量 < 50 < 50 Sum
萘 Naphthalene	< 1	< 2	< 2	< 10	< 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)

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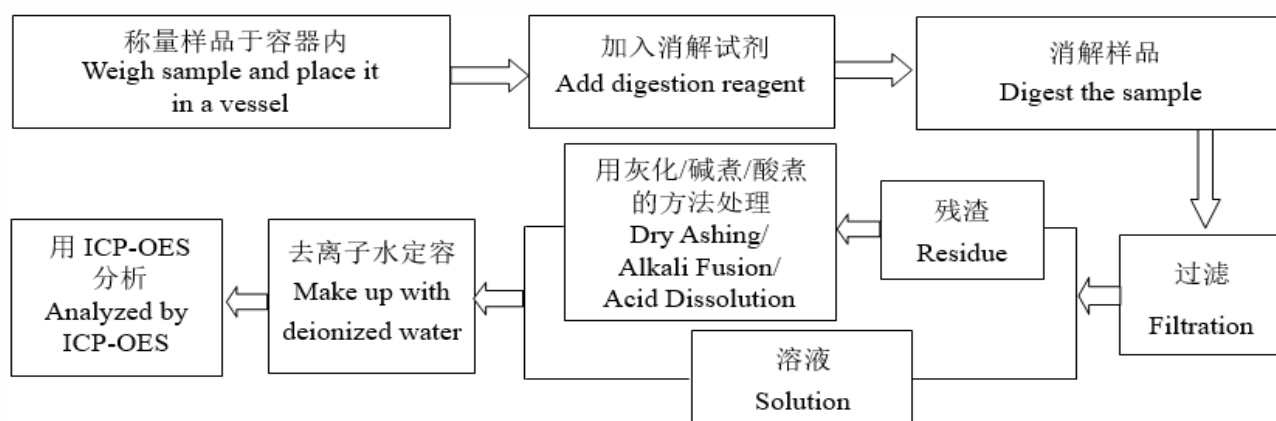
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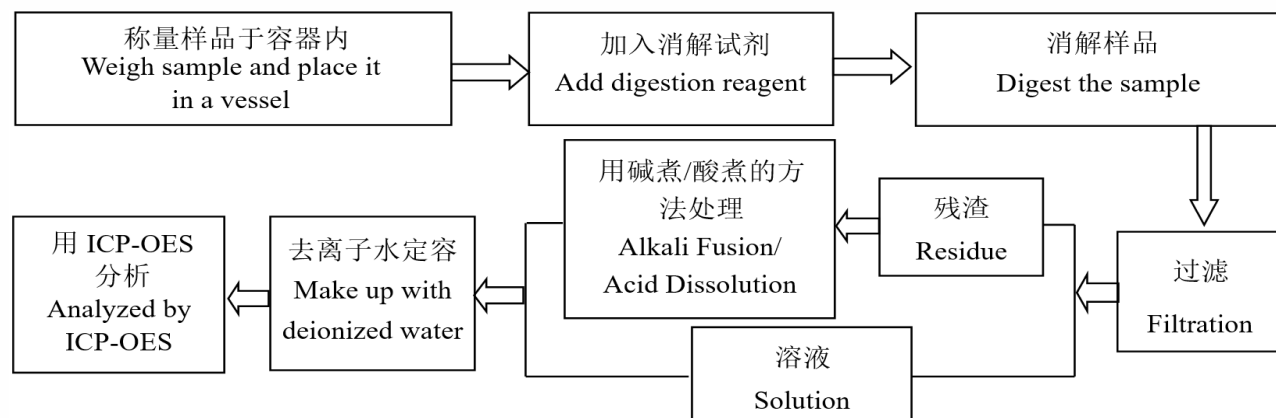
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1.3 检测流程 Test Process

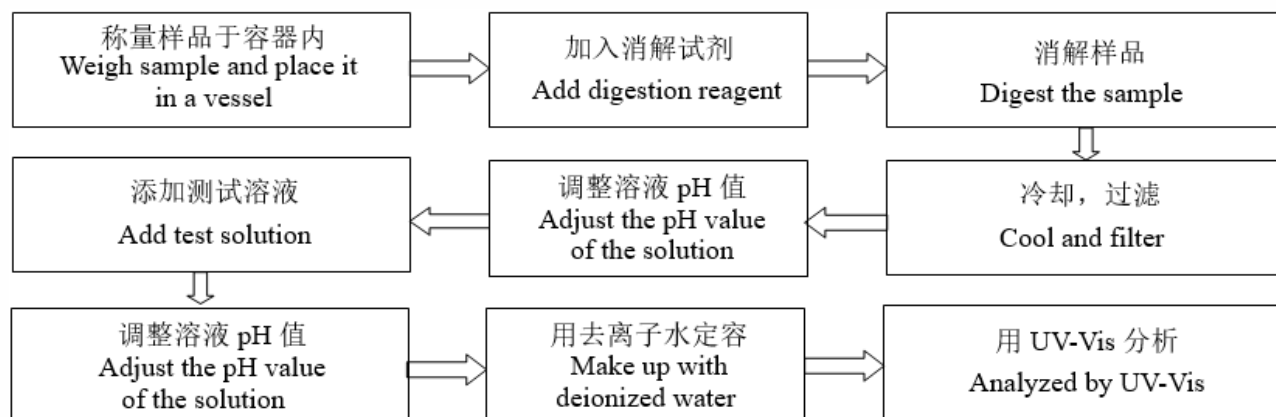
1.3.1. 铅 Lead (Pb), 镉 Cadmium (Cd), 铬 Chromium(Cr)



1.3.2. 汞 Mercury (Hg)



1.3.3. 六价铬 Hexavalent Chromium (Cr(VI))

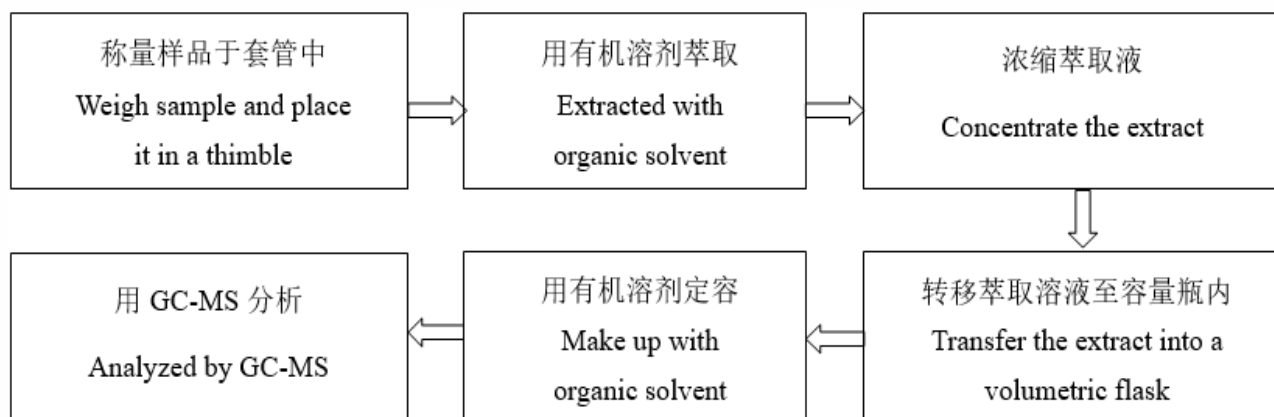


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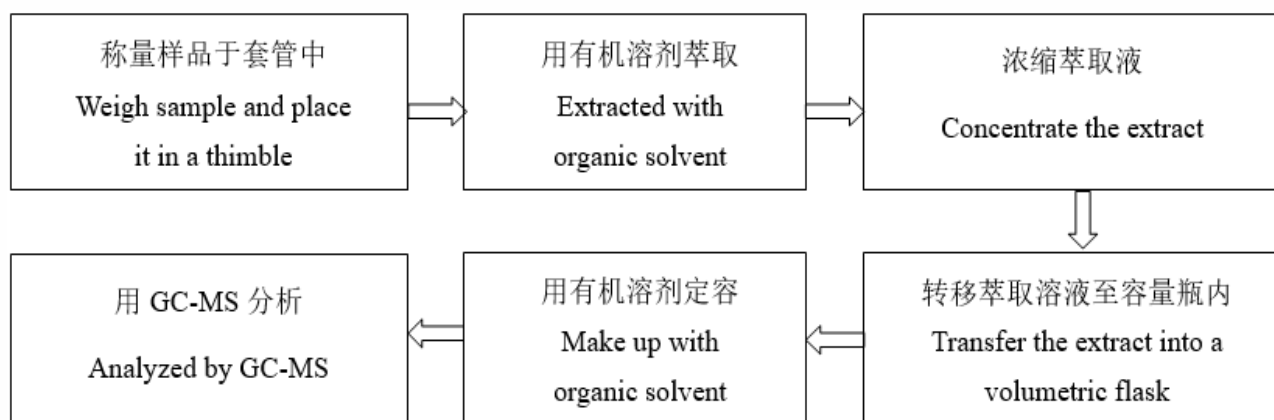
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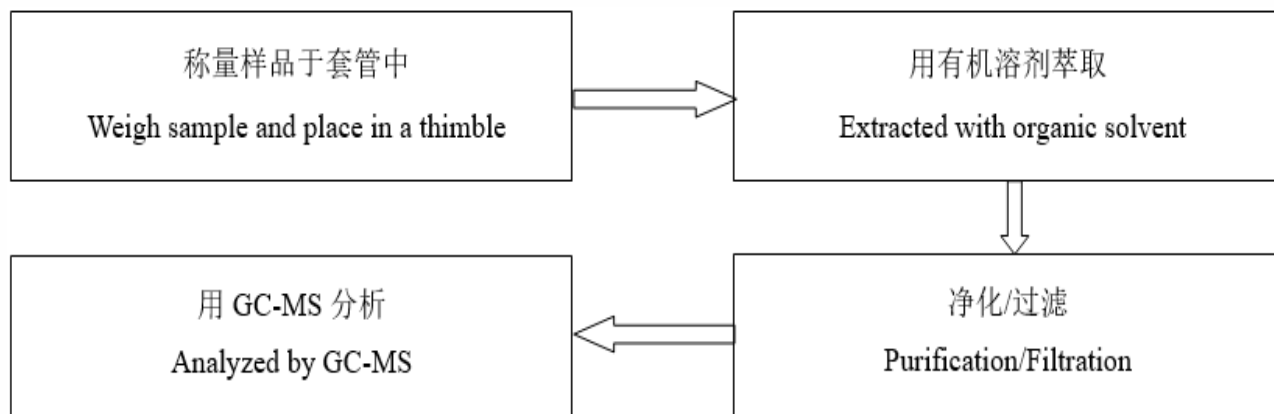
1.3.4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



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



1.3.6. 多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)



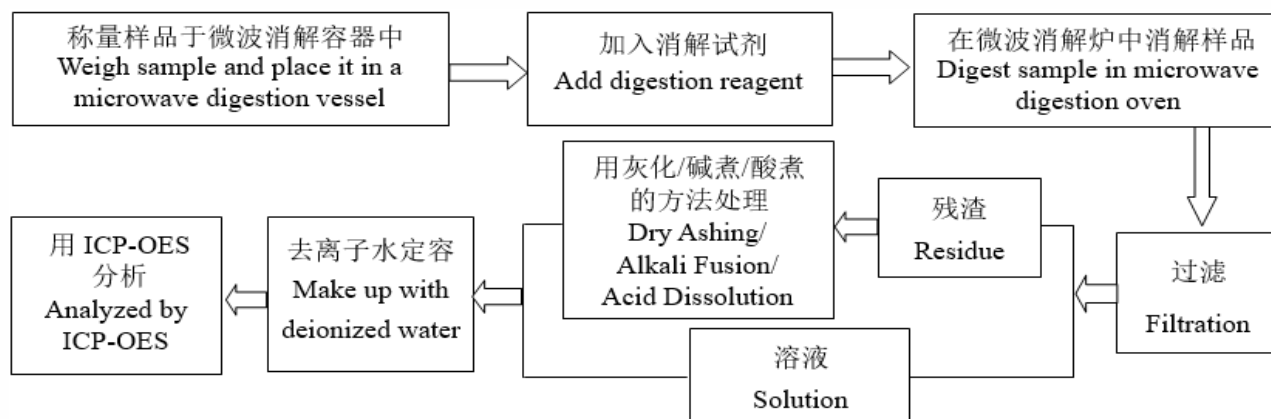
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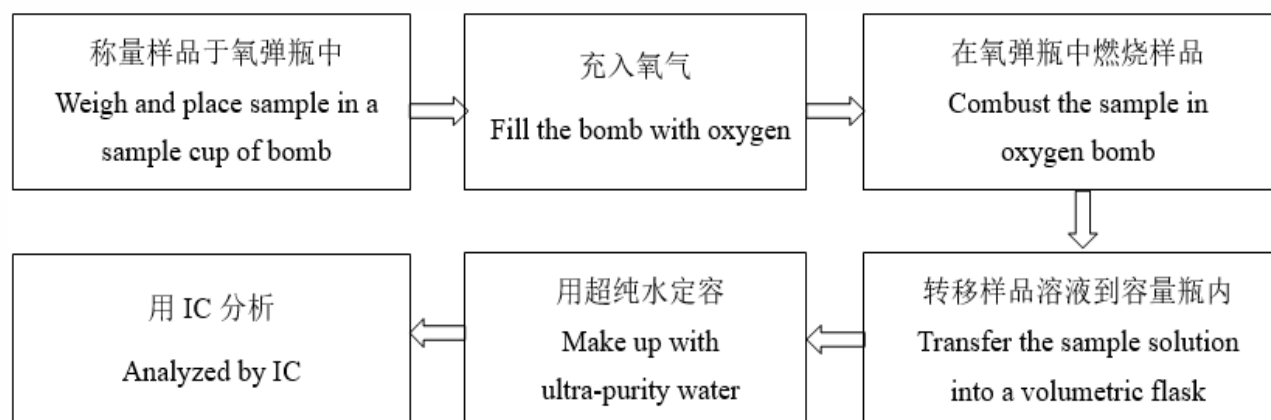
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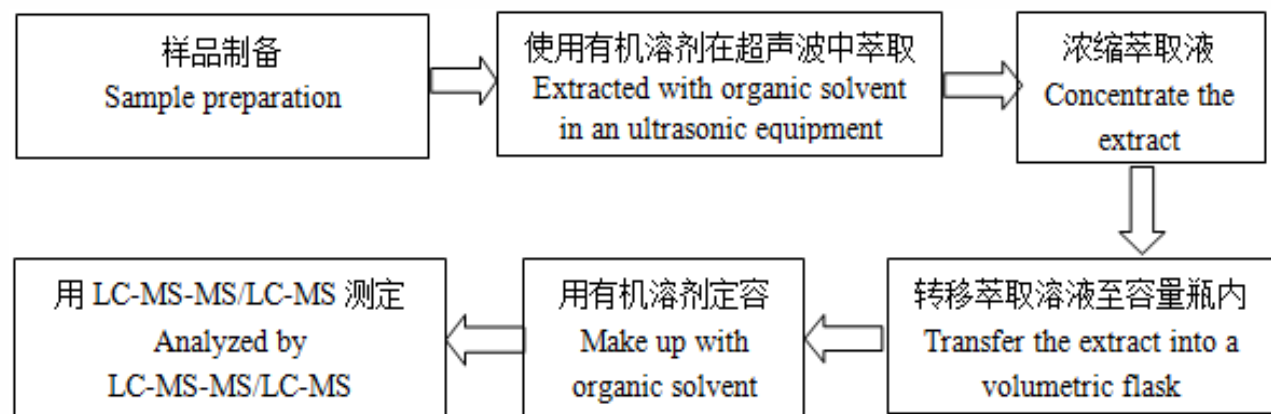
1.3.7. 铍 Beryllium(Be), 锑 Antimony(Sb)



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



1.3.9. 全氟辛酸(PFOA) Perfluorooctanoic Acid(PFOA), 全氟辛烷磺酸(PFOS) Perfluorooctane Sulfonates(PFOS)

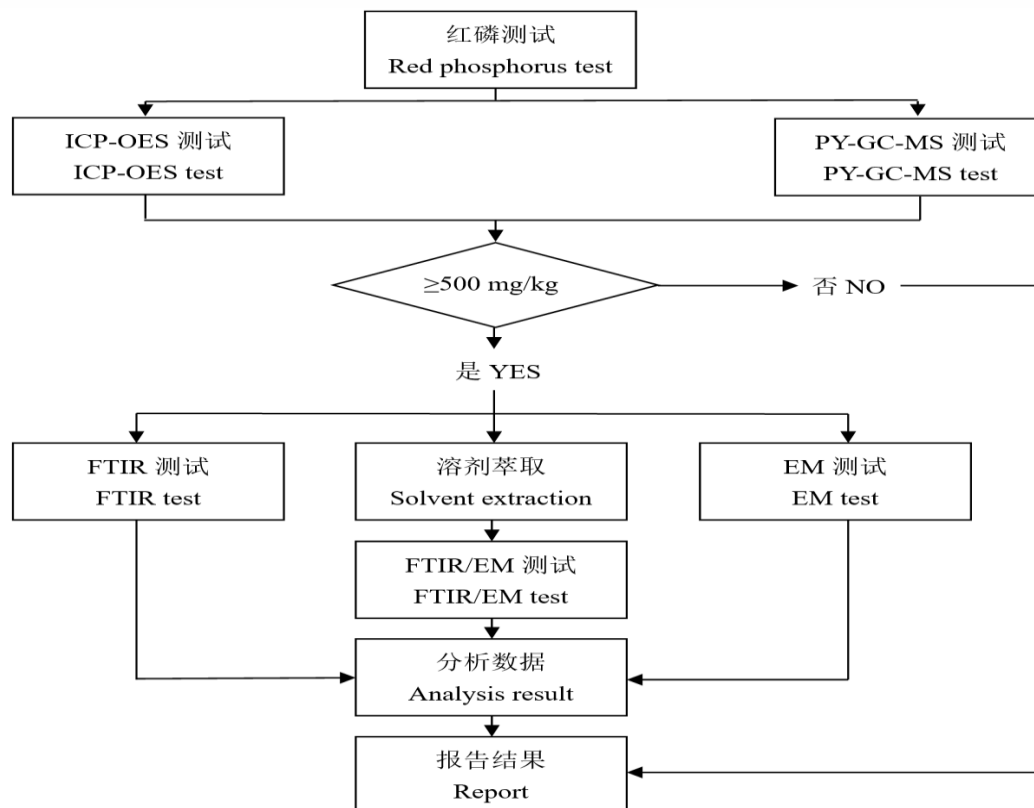


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1.3.10. 红磷 Red phosphorus



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2.1 客户要求 Client's requirement
全氟己基磺酸(PFHxS)及其盐和相关物质 Perfluorohexane-1-sulphonic acid (PFHxS) and its salts & related substances

测试方法: CEN/TS 15968:2010*1; 测试仪器: LC-MS-MS & GC-MS
Test Method: CEN/TS 15968:2010*1; Test Equipment: LC-MS-MS & GC-MS

序号 No.	测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)
			001	
1	全氟己基磺酸 Perfluorohexanesulfonic acid (PFHxS)	355-46-4	N.D.	0.010
2	全氟己基磺酸钠 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluoro-, sodium salt (PFHxS-Na)*	82382-12-5	N.D.	0.020
3	全氟己基磺酸钾 Potassium perfluorohexane-1-sulphonate (PFHxS-K)*	3871-99-6	N.D.	0.020
4	全氟己基磺酸锂 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt(1:1) (PFHxS-Li)*	55120-77-9	N.D.	0.020
5	全氟己基磺酸锌 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, zinc salt (PFHxS-Zn)*	70136-72-0	N.D.	0.025
6	全氟己基磺酸镓盐(9CI) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, gallium salt (9CI) (PFHxS-Ga)*	341035-71-0	N.D.	0.010
7	全氟己基磺酸钪盐(3:1) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, scandium(3+) salt (3:1) (PFHxS-Sc)*	350836-93-0	N.D.	0.010
8	全氟己基磺酸钕盐(3:1) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, neodymium(3+) salt (3:1) (PFHxS-Nd)*	41184-65-0	N.D.	0.010
9	全氟己基磺酸钇盐(3:1) 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, yttrium(3+) salt (3:1) (PFHxS-Y)*	41242-12-0	N.D.	0.010
10	全氟己基磺酸铯 Cesium Perfluorohexanesulfonate (PFHxS-Cs)*	92011-17-1	N.D.	0.010
11	全氟己基磺酸铵 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, ammonium salt (1:1) (PFHxS-NH ₄)*	68259-08-5	N.D.	0.020
12	全氟己基磺酰氯 1,1,2,2,3,3,4,4,5,5,6,6,6-Tridecafluorohexane-1-sulphonyl chloride (PFHxS-Cl)*	55591-23-6	N.D.	0.020
13	全氟己烷磺酸盐 Perfluorohexylsulfonate (PFHxS(anion))*	108427-53-8	N.D.	0.010
14	(二-4,1-苯撑硫)双二苯基硫与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:2)的盐 Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:2) (PFHxS-S ₃ (C ₆ H ₅) ₄ (C ₆ H ₄) ₂)*	421555-73-9	N.D.	0.020

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			001	
15	二[4-(1,1-二甲基丙基)苯基]碘与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸的盐 Iodonium, bis[4-(1,1-dimethylpropyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic (PFHxS-I(C ₆ H ₄) ₂ (C ₅ H ₁₁) ₂)*	421555-74-0	N.D.	0.020
16	三[4-(1,1-二甲基乙基)苯基]硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯 Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₄) ₃ (C ₄ H ₉) ₃)*	425670-70-8	N.D.	0.020
17	1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸锌与 N,N-二乙基乙胺(1:1) 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with N,N-diethylethanamine (1:1) (PFHxS-N(C ₂ H ₅) ₃)*	72033-41-1	N.D.	0.020
18	二[(1,1-二甲基乙基)苯基]碘与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸的盐(1:1) (9CI) Iodonium, bis[(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (9CI) (PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)*	866621-50-3	N.D.	0.020
19	(4-甲基苯基)二苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, (4-methylphenyl)diphenyl-,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₅) ₂ C ₇ H ₇)*	910606-39-2	N.D.	0.020
20	[4-[(2-甲基-1-氧代-2-丙烯-1-基)氧基]苯基]二苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₅) ₂ C ₁₀ H ₉ O ₂)*	911027-68-4	N.D.	0.020
21	[4-[(2-甲基-1-氧代-2-丙烯基)氧基]苯基]二苯硫与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸的盐与 2-乙基三环[3.3.1.13,7]癸-2-甲基-2-丙烯酸酯、3-羟基三环[3.3.1.13,7]癸-2-甲基-2-丙烯酸酯和四氢呋喃-2-甲基-2-丙烯酸酯的聚合物 Sulfonium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1), polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate,3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate*	911027-69-5	N.D.	0.020

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			001	
22	二苯并[k,n][1,4,7,10,13]四氧硫酰氯代十六烷基铵, 19-[4-(1,1-二甲基乙基)苯基]-6,7,9,10,12,13-六氢-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Dibenzo[k,n][1,4,7,10,13] tetraoxathiacyclopentadecinium, 19-[4-(1,1-dimethylethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-SC ₂₈ H ₃₁ O ₄)*	928049-42-7	N.D.	0.020
23	三苯基(苯甲基)膦-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Phosphonium, triphenyl (phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-P(C ₆ H ₅) ₃ C ₇ H ₇)*	1000597-52-3	N.D.	0.020
24	N,N,N-三丁基-1-丁胺与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸的盐 1-Butanaminium, N,N,N-tributyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (PFHxS-N(C ₄ H ₉) ₄)*	108427-54-9	N.D.	0.020
25	N,N,N-三乙基乙胺与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:1)的盐 Ethanaminium,N,N,N-triethyl-,salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (PFHxS-N(C ₂ H ₅) ₄)*	108427-55-0	N.D.	0.020
26	吡咯烷与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:1)的盐 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with pyrrolidine (1:1) (PFHxS-NC ₄ H ₉)*	1187817-57-7	N.D.	0.020
27	三苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, triphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₅) ₃)*	144116-10-9	N.D.	0.020
28	1-(羧甲基)-4-[2-[4-[4-(2,2-二苯基乙烯基)苯基]-1,2,3,3a,4,8b-六氢旋流器戊烷[b]吡啶-7-基]乙烯基]喹啉-十三氟-1-己基磺酸酯(1:1) Quinolinium,1-(carboxymethyl)-4-[2-[4-[4-(2,2-diphenylethenyl)phenyl]-1,2,3,3a,4,8b-hexahydrocyclopent[b]indol-7-yl]ethenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-C ₄₄ H ₃₇ N ₂ O ₂)*	1462414-59-0	N.D.	0.020
29	二苯基碘-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Iodonium, diphenyl-,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-I(C ₆ H ₅) ₂)*	153443-35-7	N.D.	0.020
30	N,N,N-三甲基甲胺与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:1)的盐 Methanaminium,N,N,N-trimethyl-,salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (PFHxS-N(CH ₃) ₄)*	189274-31-5	N.D.	0.020

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			001	
31	2-甲基-2-丙胺与 1,1,2,2,3,3,4,4,5,5,6,6,6- 十三氟-1-己基磺酸(1:1)的盐 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with 2-methyl-2-propanamine (1:1) (PFHxS-NH ₂ (CH ₃) ₃)*	202189-84-2	N.D.	0.020
32	二[4-(1,1-二甲基乙基)苯基]碘-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)*	213740-81-9	N.D.	0.020
33	二(4-甲基苯基)苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6- 十三氟-1-己基磺酸酯(1:1) Sulfonium, bis(4-methylphenyl) phenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₇ H ₇) ₂ C ₆ H ₅)*	341548-85-4	N.D.	0.020
34	N-[4-[[4-(二乙氨基)苯基][4-(乙氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-乙基乙胺-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₁₀ H ₁₄) ₃ C ₅ H ₄)*	1310480-24-0	N.D.	0.020
35	N-[4-[[4-(二甲氨基)苯基][4-(乙氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚甲基]-N-甲基甲铵-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₈ H ₁₀) ₂ C ₁₃ H ₁₂)*	1310480-27-3	N.D.	0.020
36	N-[4-[[4-(二甲氨基)苯基][4-(苯氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-甲基甲铵-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₈ H ₁₀) ₂ C ₁₇ H ₁₂)*	1310480-28-4	N.D.	0.020
37	β-环糊精与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸根(1-)(1:1)形成的化合物 Beta-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-)(1:1) (PFHxS-C ₄₂ H ₇₀ O ₃₅)*	1329995-45-0	N.D.	0.020
38	γ-环糊精与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸根(1-)(1:1)形成的化合物 Gamma-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-)(1:1) (PFHxS-C ₄₈ H ₈₀ O ₄₀)*	1329995-69-8	N.D.	0.020

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			001	
39	2,2'-亚氨基二乙醇与 1,1,2,2,3,3,4,4,5,5,6,6,6-三氟-1-己基磺酸(1:1)形成的化合物 Tridecafluorohexanesulphonic acid, compound with 2,2'-iminodiethanol (1:1) (PFHxS-NH(C ₂ H ₅ O) ₂)*	70225-16-0	N.D.	0.020
40	全氟己基磺酸(PFHxS)及其盐 Perfluorohexane-1-sulphonic acid (PFHxS) and its salts	--	N.D.	--
41	全氟己基磺酰氟 1-Hexanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- (PFHxSF)*	423-50-7	N.D.	0.020
42	全氟己基磺酰胺 1-Hexane-sulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluoro- (FHxSA)	41997-13-1	N.D.	0.010
43	N-甲基全氟己烷磺酰胺 N-methylperfluorohexanesulfonamide (MeFHxSA)	68259-15-4	N.D.	0.200
44	全氟己基磺酸(PFHxS)相关物质 Perfluorohexane-1-sulphonic acid (PFHxS) related substances	--	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
- *该物质的结果由其特定化合物的结果换算而来。

Result(s) shown of the substance(s) is/ are converted from the result(s) of certain compound(s).

- 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。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.
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样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	芯片（整体测试） Chip(Tested as a whole)

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注释 Note:

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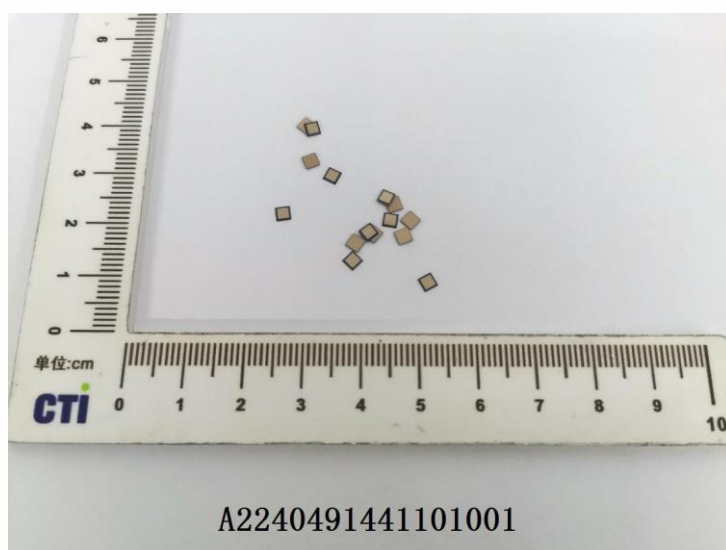
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样品图片

Photo(s) of the sample(s)



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*** 报告结束 ***
*** End of Report ***