



检测报告

Test Report

报告编号 A2250196953102001E
Report No. A2250196953102001E

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报告抬头公司名称 无锡华润华晶微电子有限公司
Company Name WUXI CHINA RESOURCES HUAJING MICROELECTRONICS CO., LTD.
shown on Report
地 址 江苏省无锡市梁溪路 14 号
Address 14 LIANGXI ROAD, WUXI, JIANGSU, 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 TO-220F 铅焊料-无卤
Sample Name TO-220F Lead Solder-Halogen free
样品接收日期 2025.03.29
Sample Received Date Mar. 29, 2025
样品检测日期 2025.03.29-2025.04.03
Testing Period Mar. 29, 2025 to Apr. 3, 2025

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

2025.04.07

No. R780111276

上海市闵行区万芳路 1351 号

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



上海华测品标检测技术有限公司

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

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测试摘要 Executive Summary:

测试要求

TEST REQUEST

1. (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, 对所提交样品中的砷(As), 铍(Be), 锑(Sb), 氟(F), 氯(Cl), 溴(Br), 碘(I), 多环芳烃(PAHs), 四溴双酚 A (TBBP-A), 聚氯乙烯(PVC), 邻苯二甲酸酯, 红磷进行测试。

As specified by client, to test Arsenic(As), Beryllium(Be), Antimony(Sb), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Polycyclic Aromatic Hydrocarbons (PAHs), Tetrabromobisphenol A (TBBP-A), Polyvinyl Chloride (PVC), Phthalates, Red phosphorus in the submitted sample(s).

(3)根据客户要求, 对所提交样品中的硫(S)进行筛选测试。

As specified by client, to screen Sulfur(S) in the submitted sample(s).

2. 客户要求

Client's requirement

- 全氟辛酸(PFOA)及其盐和相关物质

Perfluorooctanoic acid (PFOA) and its salts & related substances

- 全氟辛烷磺酸(PFOS)及其衍生物

Perfluorooctane sulfonic acid (PFOS) and its derivatives

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 62321-7-1:2015	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
砷 Arsenic(As)	参考 US EPA 3052:1996 & US EPA 6010D:2018* ¹ Refer to US EPA 3052:1996 & US EPA 6010D:2018* ¹	ICP-OES
铍 Beryllium(Be)	参考 US EPA 3050B:1996 & US EPA 6010D:2018* ¹ Refer to US EPA 3050B:1996 & US EPA 6010D:2018* ¹	ICP-OES
	参考 US EPA 3052:1996 & US EPA 6010D:2018* ¹ Refer to US EPA 3052:1996 & US EPA 6010D:2018* ¹	
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)	EN 14582:2016	IC
氯 Chlorine (Cl)	EN 14582:2016	IC
溴 Bromine (Br)	EN 14582:2016	IC
碘 Iodine (I)	EN 14582:2016	IC
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)	AfPS GS 2019:01 PAK	GC-MS
硫 Sulfur(S)	EN 14582:2016	IC
四溴双酚 A Tetrabromobisphenol A (TBBP-A)	参考 US EPA 3550C:2007 & US EPA 8321B:2007* ¹ Refer to US EPA 3550C:2007 & US EPA 8321B:2007* ¹	LC-MS-MS/LC-MS

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Table with 3 columns: 测试项目 (Tested Item(s)), 测试方法 (Test Method), 测试仪器 (Measured Equipment(s)). Rows include Polyvinyl Chloride (PVC), Phthalates, and Red phosphorus.

1.2 检测结果 Test Result(s)

Table with 5 columns: 测试项目 (Tested Item(s)), 结果 (Result) with sub-columns 001 and 002, 方法检出限 (MDL), 限值 (Limit). Rows include Lead (Pb), Cadmium (Cd), Mercury (Hg), and Hexavalent Chromium (Cr(VI)).

Table with 4 columns: 测试项目 (Tested Item(s)), 结果 (Result) with sub-column 001, 方法检出限 (MDL), 限值 (Limit). Rows include Polybrominated Biphenyls (PBBs) and various brominated biphenyls (Monobromobiphenyl to Decabromobiphenyl).

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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	

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	
砷 Arsenic (As)	N.D.	10 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
铍 Beryllium (Be)	N.D.	10 mg/kg

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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., 10 mg/kg.

Table with 3 columns: Tested Item(s), Result, MDL. Rows 1-5: Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), all N.D., 10 mg/kg.

Table with 3 columns: Tested Item(s), Result, MDL. Rows 1-20: Polycyclic Aromatic Hydrocarbons (PAHs) including Naphthalene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Chrysene, and various benzo derivatives, all N.D., 0.2 mg/kg.

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测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)		
菲,蒽,荧蒽,芘总量 Sum (Phenanthrene, Anthracene, Fluoranthene, Pyrene)	N.D.	/
15 PAHs 总量 Sum 15 PAHs	N.D.	/

测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL
硫 Sulfur (S)* ³	116 mg/kg	50 mg/kg

测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL
四溴双酚 A Tetrabromobisphenol A (TBBP-A)	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL
聚氯乙烯 Polyvinyl Chloride (PVC)	阴性 Negative	/

测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL
邻苯二甲酸酯 Phthalates		
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	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.	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.	50 mg/kg
邻苯二甲酸二正辛酯 Di-n-octyl phthalate (DNOP) CAS#:117-84-0	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.	50 mg/kg

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
邻苯二甲酸酯 Phthalates		
邻苯二甲酸二异癸酯 Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	50 mg/kg
邻苯二甲酸二甲酯 Dimethyl phthalate (DMP) CAS#:131-11-3	N.D.	50 mg/kg
邻苯二甲酸二乙酯 Diethyl phthalate (DEP) CAS#:84-66-2	N.D.	50 mg/kg
邻苯二甲酸二丙酯 Dipropyl phthalate (DPrP) CAS#:131-16-8	N.D.	50 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg
邻苯二甲酸二戊酯 Dipentyl phthalate (DPP/DPENP) CAS#:131-18-0	N.D.	50 mg/kg
邻苯二甲酸二环己酯 Dicyclohexyl phthalate (DCHP) CAS#:84-61-7	N.D.	50 mg/kg
邻苯二甲酸二异辛酯 Diisooctyl phthalate (DIOP) CAS#:27554-26-3	N.D.	50 mg/kg
邻苯二甲酸二壬酯 Dinonyl phthalate (DNP) CAS#:84-76-4	N.D.	50 mg/kg
邻苯二甲酸二己酯 Di-n-hexyl phthalate (DNHP/DHEXP) CAS#:84-75-3	N.D.	50 mg/kg
邻苯二甲酸二苄酯 Dibenzyl phthalate (DBzP) CAS#:523-31-9	N.D.	50 mg/kg
邻苯二甲酸二苯酯 Diphenyl phthalate (DPhP) CAS#:84-62-8	N.D.	50 mg/kg

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
红磷 Red phosphorus*1	N.D.	500 mg/kg

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	黑色本体（整体测试） Black body(Tested as a whole)
2	002	银色金属引脚 Silvery metal pin

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备注: 对于检测铅, 镉, 汞, 砷, 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。

-阴性表示不含有聚氯乙烯(PVC)

-*2=根据客户声明, 样品中的铅来自于高温融化焊料。高温熔融焊料中的铅 (即: 铅基合金中铅含量 $\geq 85\%$ (Wt)), 根据欧盟指令 2011/65/EU 附录 III 豁免项第 7(a)条, 是符合豁免的。

-*3=该项目的检测结果由硫酸根离子(SO_4^{2-})的测试结果换算而来。

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Arsenic, 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 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.

-Negative = Not contained Polyvinyl Chloride (PVC)

-*2=According to the client's statement, lead mainly comes from the high melting temperature type solders. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead) is exempted from the restriction, with reference to EU Directive 2011/65/EU annex III Exemption Applications 7(a).

-*3= The test result of the item is converted from the test result of Sulfate ion (SO_4^{2-}).

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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)苝 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, 苝	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)

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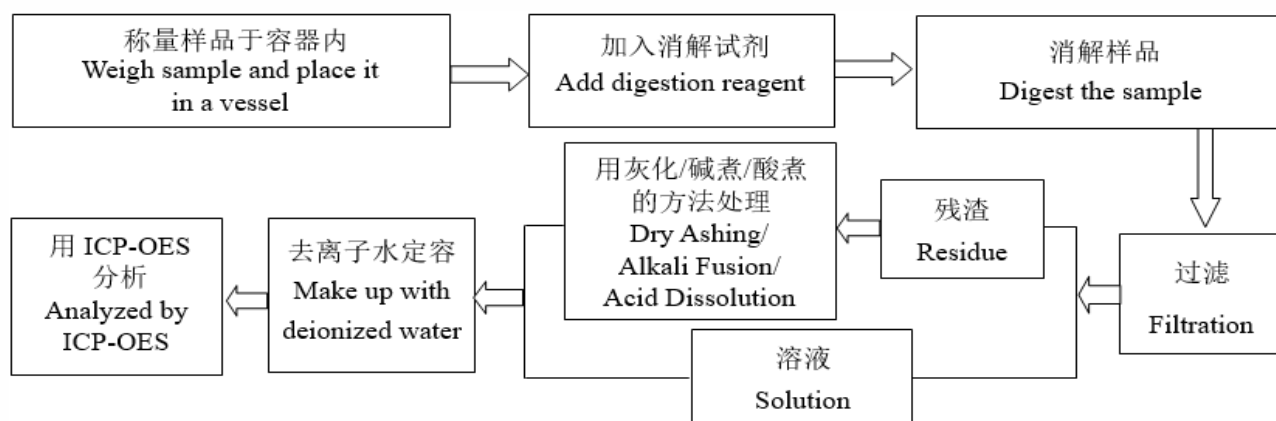
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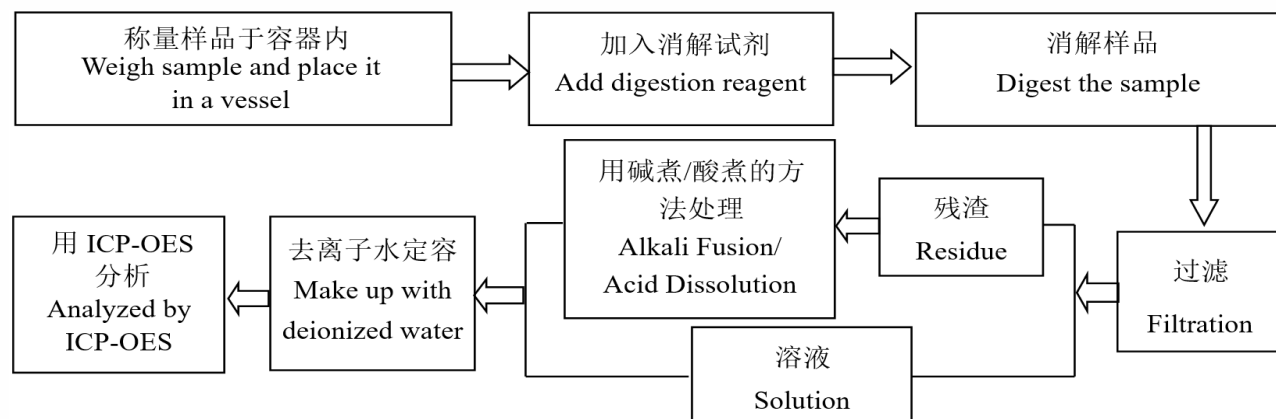
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1.3 检测流程 Test Process

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

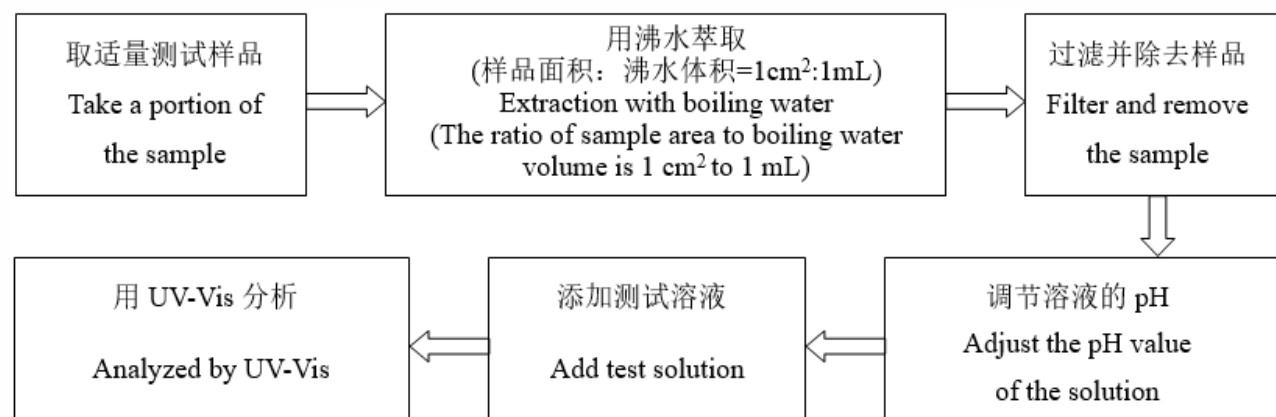


1.3.2. 汞 Mercury (Hg)



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

(1) IEC 62321-7-1:2015



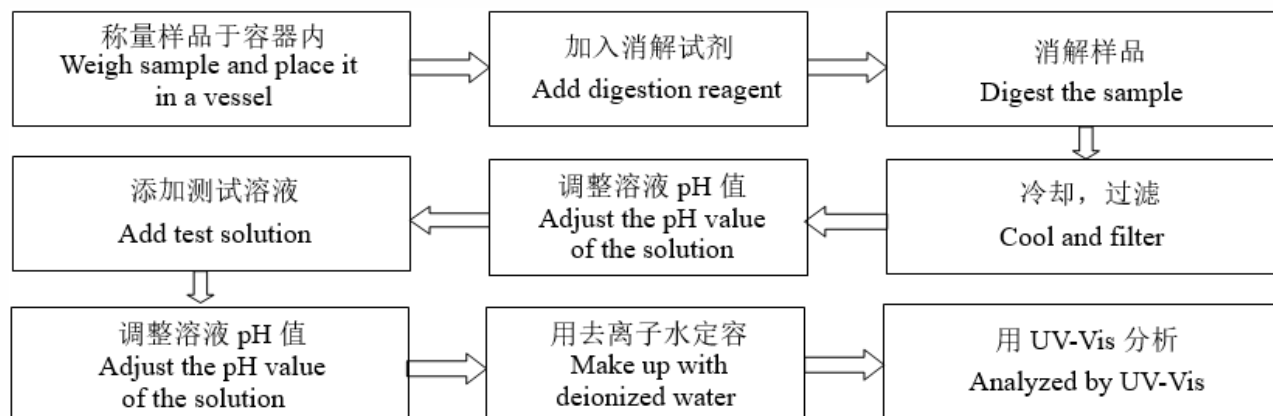
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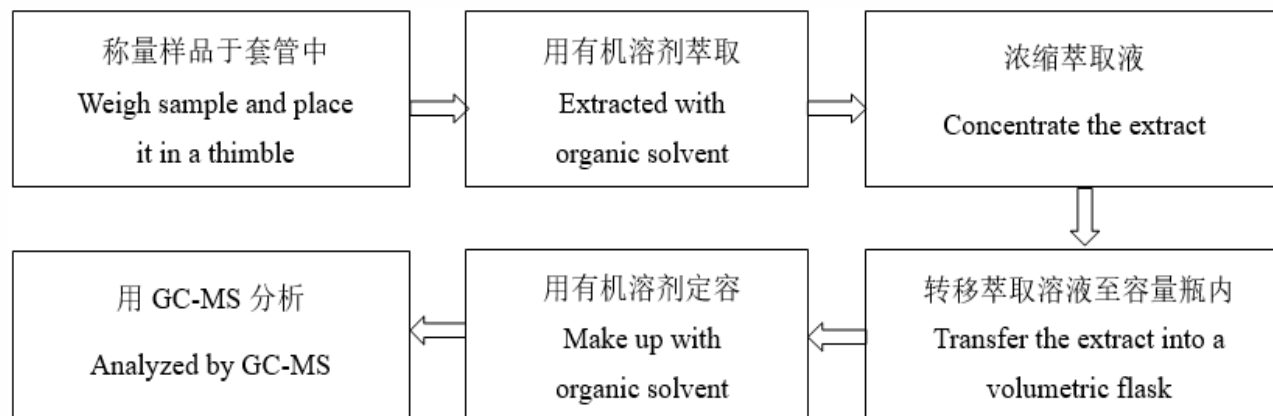
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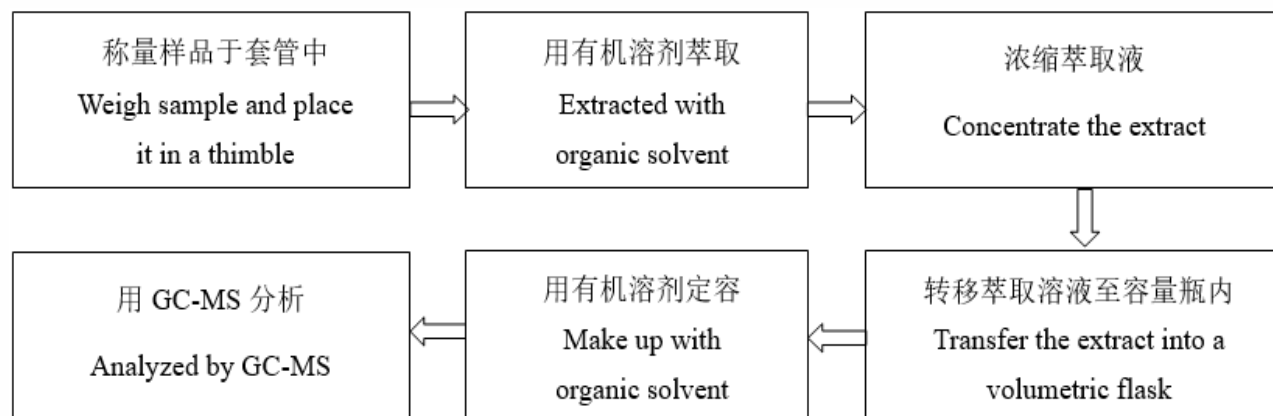
(2) IEC 62321-7-2:2017



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



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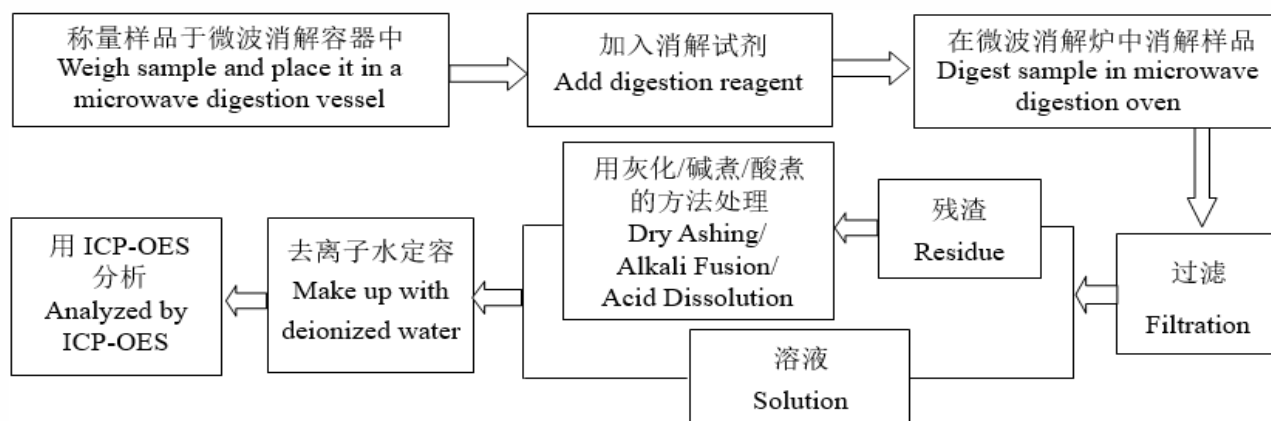
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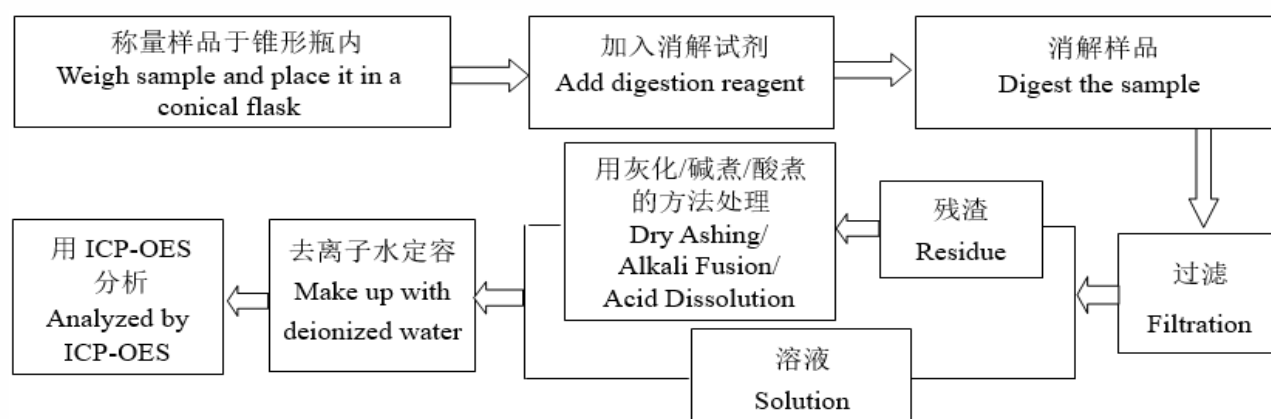
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1.3.6. 铍 Beryllium(Be)

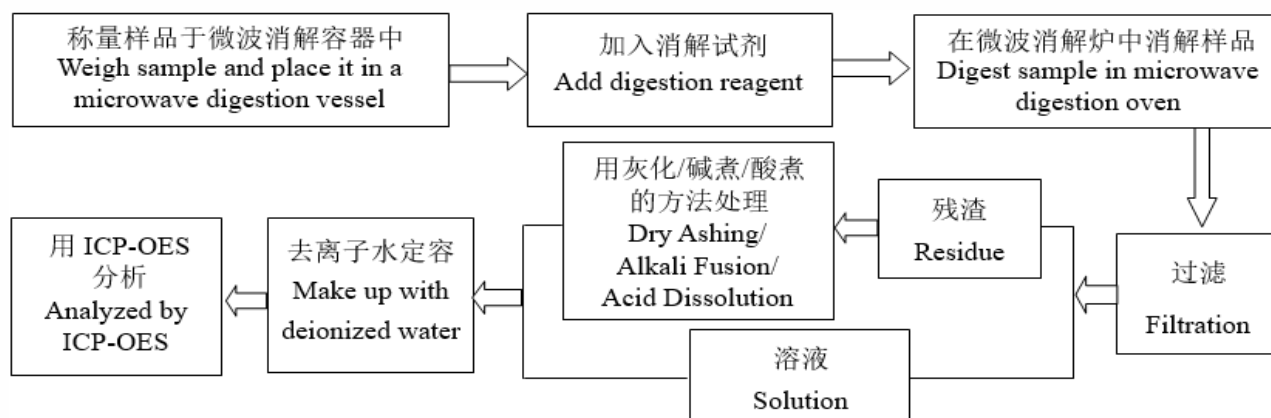
(1) 参考 US EPA 3052:1996 & US EPA 6010D:2018 Refer to US EPA 3052:1996 & US EPA 6010D:2018



(2) 参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018



1.3.7. 砷 Arsenic(As), 锑 Antimony(Sb)

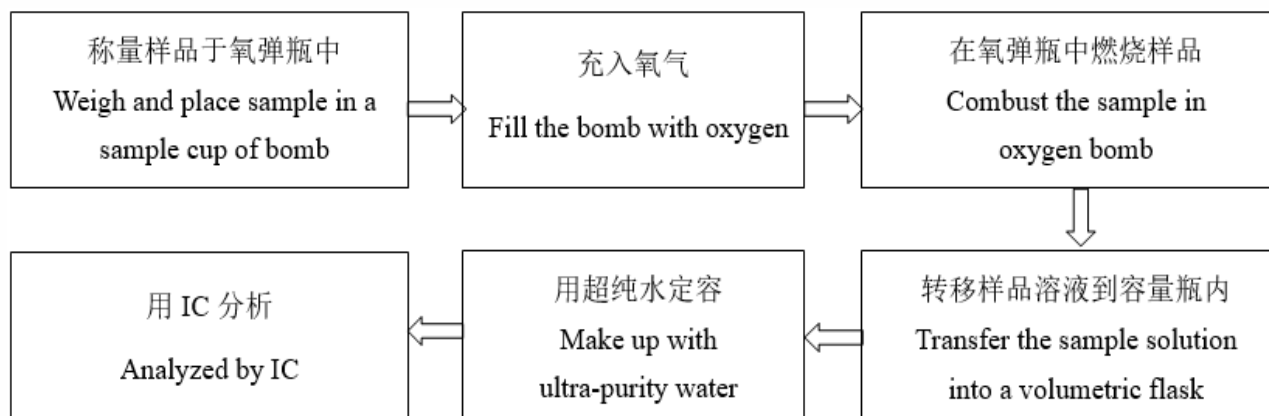


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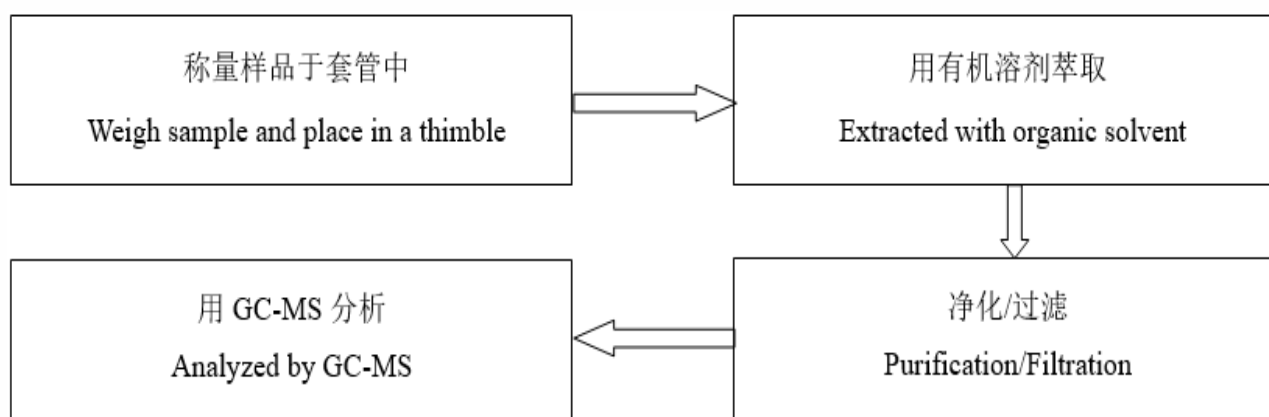
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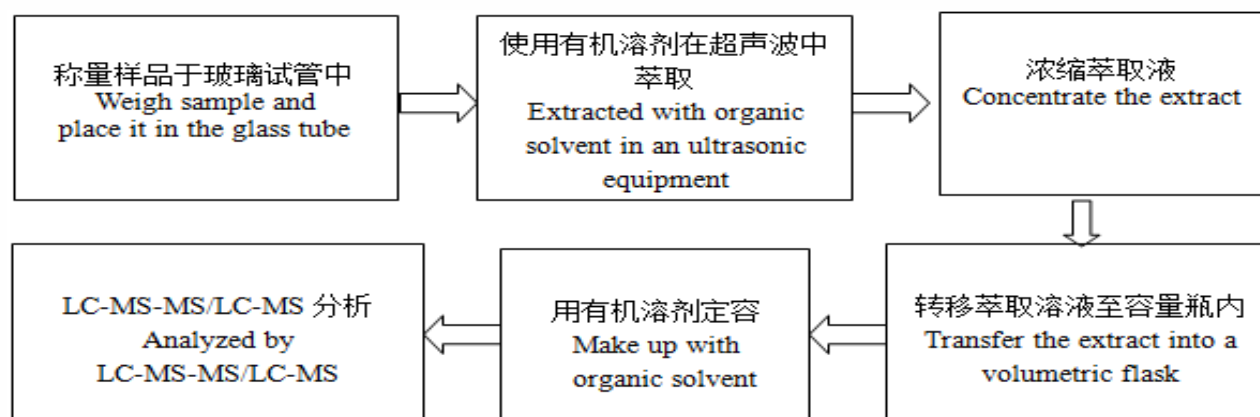
1.3.8. 氟 Fluorine (F), 氯 Chlorine (Cl), 溴 Bromine (Br), 碘 Iodine (I), 硫 Sulfur(S)



1.3.9. 多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)



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

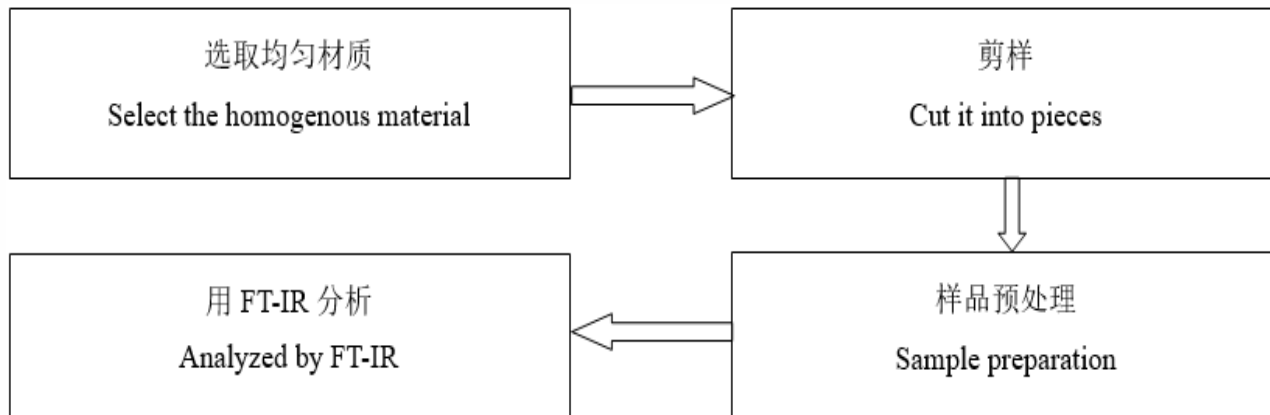


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1.3.11. 聚氯乙烯 Polyvinyl Chloride (PVC)



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2.1 客户要求 Client's requirement

▼ 全氟辛酸(PFOA)及其盐和相关物质 Perfluorooctanoic acid (PFOA) 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

测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)
		001	
PFOA 及其盐 PFOA and its salts*	335-67-1	N.D.	0.010
全氟辛酸(PFOA)及其盐 Perfluorooctanoic acid (PFOA) and its salts	-	N.D.	--
全氟辛酸甲酯 Methyl perfluorooctanoate (Me-PFOA)	376-27-2	N.D.	0.010
全氟辛酸乙酯 Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	N.D.	0.010
全氟正辛基碘烷 Perfluorooctyl iodide (PFOI)	507-63-1	N.D.	0.200
1H,1H,2H,2H-全氟-1-癸醇 1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	N.D.	0.200
8:2 FTS 及其盐 8:2 FTS and its salts*	39108-34-4	N.D.	0.200
丙烯酸 1H,1H,2H,2H-十七氟癸酯 1,1,2,2- Tetrahydroperfluorodecyl acrylate (8:2 FTAC)	27905-45-9	N.D.	0.200
2-(全氟辛基)乙基甲基丙烯酸酯 2-Propenoic acid, 2-methyl-,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10- heptadecafluorodecyl ester (8:2 FTMA)	1996-88-9	N.D.	0.200
1H,1H,2H,2H-全氟癸基三乙氧基硅烷 1H,1H,2H,2H-Perfluorodecyltriethoxysilane (PFSI)	101947-16-4	N.D.	0.200
1-碘-1H,1H,2H,2H-全氟癸烷 Decane,1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8- heptadecafluoro-10-iodo- (8:2 FTI)	2043-53-0	N.D.	0.200
8:2diPAP 及其盐 8:2diPAP and its salts*	678-41-1	N.D.	0.200
2H,2H-全氟癸酸 2H,2H-Perfluorodecanoate (H ₂ PFDA)	27854-31-5	N.D.	0.010
四丁基磷 2H,2H-全氟癸酸酯 Tetrabutylphosphonium 2H,2H- Perfluorodecanoate (H ₂ PFDA-P(C ₄ H ₉) ₄)	882489-14-7	N.D.	0.010
H ₄ PFUnA 及其盐 H ₄ PFUnA and its salts*	34598-33-9	N.D.	0.010
全氟辛基乙烯 1-Decene,3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,10-heptadecafluoro- (PFOE)	21652-58-4	N.D.	0.200
全氟癸基三氯硅烷 Perfluorooctylethyltrichlorosilane (FDTs)	78560-44-8	N.D.	0.200
全氟癸基三甲氧硅烷 Perfluorooctylethyltrimethoxysilane (FDTMOS)	83048-65-1	N.D.	0.200
10:2 diPAP 及其盐 10:2 diPAP and its salts*	1895-26-7	N.D.	0.200
8:2 monoPAPS 及其盐 8:2 monoPAPS and its salts*	57678-03-2	N.D.	0.200
2H-全氟-2-癸烯酸 2H-Perfluoro-2-decenoic acid (8:2 FTUCA)	70887-84-2	N.D.	0.010
C8-14-全氟烷基乙醇 Alcohols,C8-14,gamma- omega-perfluoro (C8-14-PFEtOH)	68391-08-2	N.D.	0.200

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测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)
		001	
2-全氟辛基乙基乙酸酯 1H,1H,2H,2H-Perfluorodecyl acetate (8:2FTOAc)	37858-04-1	N.D.	0.200
全氟辛酸(PFOA)相关物质 Perfluorooctanoic acid (PFOA) 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
- * = PFOA 及其盐和相关物质清单中列出的物质 The substances listed in the List of PFOA and its salts & related substances

PFOA 及其盐和相关物质清单 List of PFOA and its salts & related substances

序号 No.	组名 Group Name	物质名称 Substance Name(s)	CAS No.
全氟辛酸(PFOA)及其盐 Perfluorooctanoic acid (PFOA) and its salts			
1	PFOA 及其盐 PFOA and its salts	全氟辛酸 Perfluorooctanoic acid (PFOA)	335-67-1
2		全氟辛酸铵 Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
3		全氟辛酸钠 Sodium perfluorooctanoate (PFOA-Na)	335-95-5
4		全氟辛酸钾 Potassium perfluorooctanoate (PFOA-K)	2395-00-8
5		全氟辛酸锂 Lithium perfluorooctanoate (PFOA-Li)	17125-58-5
6		全氟辛酸银 Silver perfluorooctanoate (PFOA-Ag)	335-93-3
7		全氟辛氟 Perfluorooctanoyl fluoride (PFOA-F)	335-66-0
8		全氟辛酸铯 Cesium perfluorooctanoate (PFOA-Cs)	17125-60-9
9		全氟辛酸钴 Cobalt perfluorooctanoate (PFOA-Co)	35965-01-6
10		全氟辛酸铬 Chromium(III) perfluorooctanoate (PFOA-Cr)	68141-02-6
11		全氟辛酸四乙基铵 N,N,N-Triethylethanaminium perfluorooctanoate (PFOA-NH(C ₂ H ₅) ₃)	98241-25-9
12		全氟辛酸四丙基铵 Tetrapropylammonium perfluorooctanoate (PFOA-NH(C ₃ H ₇) ₄)	277749-00-5
13		全氟辛酸 N,N,N-三甲基甲烷 Perfluorooctanoate N,N,N-Trimethylmethanaminium (PFOA-NH(C ₄ H ₁₁) ₃)	32609-65-7
14		全氟辛酸-哌嗪 Pentadecafluorooctanoic acid-piperazine (2/1) (PFOA-NH(C ₄ H ₁₀ N) ₂)	423-52-9
15		全氟辛酸钾水合物 Potassium pentadecafluorooctanoate-water (1/1/2) (PFOA-K(H ₂ O) ₂)	98065-31-7
16		全氟辛酸乙胺 Perfluorooctanoic acid compd. with ethanamine (1:1) (PFOA-C ₂ H ₇ N)	1376936-03-6
17		全氟辛酸吡啶 Pentadecafluorooctanoic acid-pyridine (1/1) (PFOA-C ₅ H ₅ N)	95658-47-2
18		全氟辛酸苯基哌嗪 Pentadecafluorooctanoic acid- 1-phenylpiperazine(1:1) (PFOA-C ₁₀ H ₁₄ N ₂)	1514-68-7
19		全氟辛酸辛基三甲基铵 N,N,N-Trimethyloctan-1-aminium pentadecafluorooctanoate (PFOA-C ₁₁ H ₂₆ N)	927835-01-6
20		全氟辛酸酐 Perfluorooctanoic Anhydride (PFOAA)	33496-48-9

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21		全氟辛酸盐 Pentadecafluorooctanoate (anion) (PFOA (anion))	45285-51-6
22		全氟辛酸氯 Pentadecafluorooctanoyl chloride (PFOA-Cl)	335-64-8
全氟辛酸(PFOA)相关物质 Perfluorooctanoic acid (PFOA) related substances			
23	--	全氟辛酸甲酯 Methyl perfluorooctanoate (Me-PFOA)	376-27-2
24	--	全氟辛酸乙酯 Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5
25	--	全氟正辛基碘烷 Perfluorooctyl iodide (PFOI)	507-63-1
26	--	1H,1H,2H,2H-全氟-1-癸醇 1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7
27	8:2 FTS 及其盐 8:2 FTS and its salts	1H,1H,2H,2H-全氟癸磺酸 1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4
28		1H,1H,2H,2H-全氟癸磺酸钠 1H,1H,2H,2H-Perfluorodecanesulfonic Acid Sodium (8:2 FTS-Na)	27619-96-1
29		1H,1H,2H,2H-全氟癸磺酸钾 Potassium 2-(perfluorooctyl)ethane-1-sulfonate (8:2 FTS-K)	438237-73-1
30		1H,1H,2H,2H-全氟癸磺酸铵 8:2 Fluorotelomer sulfonate ammonium salt (8:2 FTS-NH ₄)	149724-40-3
31		1H,1H,2H,2H-全氟癸磺酸盐 2-(Perfluorooctyl)ethane-1-sulfonate (8:2 FTS (anion))	481071-78-7
32		1H,1H,2H,2H-全氟癸磺酰氯 2-(Perfluorooctyl)ethanesulfonyl chloride (8:2 FTS-Cl)	27619-90-5
33	--	丙烯酸 1H,1H,2H,2H-十七氟癸酯 1,1,2,2-Tetrahydroperfluorodecyl acrylate (8:2 FTAC)	27905-45-9
34	--	2-(全氟辛基)乙基甲基丙烯酸酯 2-Propenoic acid,2-methyl-,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester (8:2 FTMA)	1996-88-9
35	--	1H,1H,2H,2H-全氟癸基三乙氧基硅烷 1H,1H,2H,2H-Perfluorodecyltriethoxysilane (PFSI)	101947-16-4
36	--	1-碘-1H,1H,2H,2H-全氟癸烷 Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8- heptadecafluoro-10-iodo- (8:2 FTI)	2043-53-0
37	8:2diPAP 及其盐 8:2diPAP and its salts	双(2-(全氟乙基))磷酸 8:2 Fluorotelomer phosphate diester (8:2diPAP)	678-41-1
38		双(2-(全氟乙基))磷酸钠 Sodium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)	114519-85-6
39		双(2-(全氟乙基))磷酸铵 Ammonium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-NH ₄)	93776-20-6
40		双(2-(全氟乙基))磷酸二乙醇胺 Bis(2-hydroxyethyl)ammonium bis((perfluorooctyl)ethyl) hydrogen phosphate (8:2diPAP-C ₄ H ₁₁ NO ₂)	57677-97-1
41		双(2-(全氟乙基))磷酸盐 8:2 Fluorotelomer phosphate diester ion (1-) (8:2diPAP (anion))	1411713-91-1
42	--	2H,2H-全氟癸酸 2H,2H-Perfluorodecanoate (H ₂ PFDA)	27854-31-5
43	--	四丁基磷 2H,2H-全氟癸酸酯 Tetrabutylphosphonium 2H,2H-Perfluorodecanoate (H ₂ PFDA-P(C ₄ H ₉) ₄)	882489-14-7
44	H ₄ PFUnA 及其盐 H ₄ PFUnA and its salts	2H,2H,3H,3H-全氟十一酸 2H,2H,3H,3H-Perfluoroundecanoic acid (H ₄ PFUnA)	34598-33-9
45		3-(全氟辛基)丙酸钾 Potassium 3-(perfluorooctyl)propanoate (H ₄ PFUnA-K)	83310-58-1
46		2H,2H,3H,3H-全氟十一酸锂 Lithium 3-(perfluorooctyl)propanoate (H ₄ PFUnA-Li)	67304-23-8
47	--	全氟辛基乙烯 1-Decene,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro- (PFOE)	21652-58-4
48	--	全氟癸基三氯硅烷 Perfluorooctylethyltrichlorosilane (FDTS)	78560-44-8
49	--	全氟癸基三甲氧硅烷 Perfluorooctylethyltrimethoxysilane (FDTMOS)	83048-65-1

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50	10:2 diPAP 及其盐	双[2-(全氟癸基)乙基]磷酸酯 Bis[2-(perfluorodecyl)ethyl] Phosphate (10:2 diPAP)	1895-26-7
51	10:2 diPAP and its salts	2,2'-亚氨基二乙醇双[2-(全氟癸基)乙基]磷酸盐 Bis((perfluorodecyl)ethyl) hydrogen phosphate 2,2'-iminodiethanol (10:2 diPAP-C ₄ H ₁₁ O ₂)	57677-98-2
52	8:2 monoPAPS 及其盐 8:2 monoPAPS and its salts	十七氟-1-癸醇磷酸二氢酯 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl dihydrogen phosphate (8:2 monoPAPS)	57678-03-2
53		8:2 氟调聚物磷酸单酯钠盐 Sodium 1H,1H,2H,2H-perfluorodecyl phosphate (8:2 monoPAPS-Na)	92678-93-8
54		8:2 氟调聚物磷酸单酯二钠盐 Disodium 1H,1H,2H,2H-perfluorodecylphosphate (8:2 monoPAPS-Na ₂)	438237-75-3
55		8:2 氟调聚物磷酸单酯二铵盐 8:2 Fluorotelomer diammonium phosphate (8:2 monoPAPS-NH ₄ NH ₄)	93857-44-4
56	--	2H-全氟-2-癸烯酸 2H-Perfluoro-2-decenoic acid (8:2 FTUCA)	70887-84-2
57	--	C8-14-全氟烷基乙醇 Alcohols, C8-14, gamma-omega-perfluoro (C8-14-PF ₂ EtOH)	68391-08-2
58	--	2-全氟辛基乙基乙酸酯 1H,1H,2H,2H-Perfluorodecyl acetate (8:2FTOAc)	37858-04-1

▼ 全氟辛烷磺酸(PFOS)及其衍生物 Perfluorooctane sulfonic acid (PFOS) and its derivatives

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

测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)
		001	
PFOS 及其盐 PFOS and its salts*	1763-23-1	N.D.	0.010
全氟辛基磺酰氟 Perfluoro-1-octanesulfonyl fluoride (PFOSF)	307-35-7	N.D.	0.010
氟虫胺 N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	N.D.	0.050
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-甲基-辛磺酰胺 N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	N.D.	0.050
N-乙基全氟辛基磺酰胺乙醇 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2	N.D.	0.050
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-(2-羟乙基)-N-甲基-1-辛基磺酰胺 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	N.D.	0.050
PFOSA 及其盐 PFOSA and its salts*	754-91-6	N.D.	0.010
N-Me-FOSAA 及其盐 N-Me-FOSAA and its salts*	2355-31-9	N.D.	0.050
N-Et-FOSAA 及其盐 N-Et-FOSAA and its salts*	2991-50-6	N.D.	0.050
FOSAA 及其盐 FOSAA and its salts*	2806-24-8	N.D.	0.010
双(2-全氟辛基磺酰基-N-氨乙基)磷酸 Bis[2-[N-ethyl(heptadecafluorooctanesulphonyl)amino]ethyl] hydrogen phosphate (EtFOSEdiPAPs)	2965-52-8	N.D.	0.050
总和 Total	-	N.D.	--

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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
- * = PFOS 及其衍生物清单中列出的物质 The substances listed in the List of PFOS and its derivatives

PFOS 及其衍生物清单 List of PFOS and its derivatives

序号 No.	组名 Group Name	物质名称 Substance Name(s)	CAS No.
1	PFOS 及其盐 PFOS and its salts	全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS)	1763-23-1
2		全氟辛基磺酸钾 Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3
3		全氟辛基磺酸锂 Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
4		全氟辛基磺酸钠 Sodium perfluorooctane sulfonate (PFOS-Na)	4021-47-0
5		全氟辛基磺酸镁 1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-, magnesium salt (2:1) (PFOS-Mg)	91036-71-4
6		全氟辛基磺酸铵 Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄)	29081-56-9
7		全氟辛基磺酸二乙醇铵 Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂)	70225-14-8
8		全氟辛基磺酸四乙基铵 Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C ₂ H ₅) ₄)	56773-42-3
9		全氟辛烷磺酸四丁基铵 Tetrabutylammonium perfluorooctanesulfonate (PFOS-NH(C ₄ H ₉) ₄)	111873-33-7
10		全氟辛基磺酸二癸二甲基铵 Didecyl dimethyl ammonium perfluorooctane sulfonate (PFOS-DDA)	251099-16-8
11		全氟辛基磺酸哌啶 Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluorooctanesulfonate	71463-74-6
12		全氟辛基磺酸四甲基铵 Tetramethylammonium perfluorooctane sulfonate (PFOS-C ₄ H ₁₂ N)	56773-44-5
13		全氟辛基磺酸二乙胺 Perfluorooctanesulfonic acid diethylamine salt (PFOS-C ₄ H ₁₁ N)	2205029-08-7
14		全氟辛基磺酸三乙胺 Triethylammonium perfluorooctane sulfonate (PFOS-C ₆ H ₁₅ N)	54439-46-2
15		全氟辛基磺酸三丁基甲胺 N,N-Dibutyl-N-methylbutan-1-aminium heptafluorooctane-1-sulfonate (PFOS-C ₁₃ H ₃₀ N)	124472-68-0
16		全氟辛基磺酸戊基(三丙基)氮胺 N,N,N-Tripropylpentan-1-aminium heptafluorooctane-1-sulfonate (PFOS-C ₁₄ H ₃₂ N)	56773-56-9
17		全氟辛基磺酸四丁基膦 Tetrabutylphosphonium perfluorooctane sulfonate (PFOS-C ₁₆ H ₃₆ P)	2185049-59-4
18		全氟辛基磺酸庚基二甲基-[2-(2-甲基丙-2-烯酰氧基)乙基]胺 Heptyldimethyl{2-[(2-methylprop-2-enoyl)oxy]ethyl}azanium heptafluorooctane-1-sulfonate (PFOS-C ₁₅ H ₃₀ NO ₂)	1203998-97-3
19		全氟辛基磺酸双[4-(1,1-二甲基乙基)苯基]-碘鎓 Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, salt with perfluoro-1-octanesulfonic acid (1:1) (PFOS-C ₂₀ H ₂₆ I)	213740-80-8
20		全氟辛基磺酸二苯基(2,4,6-三甲基苯基)硫 Diphenyl(2,4,6-trimethylphenyl)sulfonium perfluoro-1-octanesulfonate (PFOS-C ₂₁ H ₂₁ S)	258341-99-0

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21		全氟辛基磺酸十六烷基吡啶 1-Hexadecylpyridinium perfluoro-1-octanesulfonate (PFOS-C ₂₁ H ₃₈ N)	334529-63-4
22		全氟辛基磺酸酐 Perfluorooctane sulfonic anhydride (PFOSAN)	423-92-7
23		N,N,N-三乙基癸-1-胺十七氟辛烷-1-磺酸盐 N,N,N-Triethyldecan-1-aminium heptadecafluorooctane-1-sulfonate (PFOS-C ₁₆ H ₃₆ N)	773895-92-4
24		全氟辛烷磺酸盐 Perfluorooctanesulfonate (PFOS (anion))	45298-90-6
25		全氟辛基磺酰氯 Perfluoro-1-octanesulfonyl chloride (PFOS-Cl)	423-60-9
26	--	全氟辛基磺酰氟 Perfluoro-1-octanesulfonyl fluoride (PFOSF)	307-35-7
27	--	氟虫胺 N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2
28	--	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-甲基-辛磺酰胺 N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8
29	--	N-乙基全氟辛基磺酰胺乙醇 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2
30	--	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-(2-羟乙基)-N-甲基-1-辛基磺酰胺 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7
31	PFOSA 及其盐 PFOSA and its salts	全氟辛基磺酰胺 Perfluorooctanesulfonamide (PFOSA)	754-91-6
32		全氟辛基磺酰胺锂盐(1:1) Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)	76752-79-9
33		全氟辛基磺酰胺钠盐(1:1) Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)	76752-78-8
34		全氟辛基磺酰胺钾盐(1:1) Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)	76752-70-0
35		全氟辛基磺酰胺铵盐(1:1) Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH ₄)	76752-72-2
36		全氟辛基磺酰胺三乙胺 Heptadecafluorooctane-1-sulphonamide, compound with triethylamine (1:1) (PFOSA-C ₆ H ₁₅ N)	76752-82-4
37	N-Me-FOSAA 及其盐 N-Me-FOSAA and its salts	N-(十七氟辛基磺酰基)-N-甲基甘氨酸 N-Methyl perfluorooctanesulfonamidoacetic acid (N-Me-FOSAA)	2355-31-9
38		N-(十七氟辛基磺酰基)-N-甲基甘氨酸钾 Potassium N-((heptadecafluorooctyl)sulphonyl)-N-methylglycinate (N-Me-FOSAA-K)	70281-93-5
39		N-(十七氟辛基磺酰基)-N-甲基甘氨酸盐 2-(N-Methylperfluorooctanesulfonamido)acetate (N-Me-FOSAA (anion))	909405-48-7
40	N-Et-FOSAA 及其盐 N-Et-FOSAA and its salts	N-乙基-N-((十七氟辛基)磺酰基)甘氨酸 N-ethyl-N-[(heptadecafluorooctyl)sulphonyl] glycine (N-Et-FOSAA)	2991-50-6
41		N-乙基-N-((十七烷氟辛基)磺酰基)-甘氨酸钾盐 Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt (N-Et-FOSAA-K)	2991-51-7
42		N-乙基-N-((十七氟辛基)磺酰基)甘氨酸钠 Sodium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-Na)	3871-50-9
43		N-乙基-N-((十七氟辛基)磺酰基)甘氨酸铵 Ammonium 2-(N-ethylperfluorooctanesulfonamido) acetate (N-Et-FOSAA-NH ₄)	2991-52-8
44		N-乙基-N-((十七氟辛基)磺酰基)甘氨酸盐 2-(N-Ethyl-perfluorooctanesulfonamido)acetate (N-Et-FOSAA (anion))	909405-49-8
45	FOSAA 及其盐 FOSAA and its salts	全氟辛烷磺酰氨基乙酸 Glycine, N-[(heptadecafluorooctyl)sulfonyl]- (FOSAA)	2806-24-8
46		全氟辛烷磺酰氨基乙酸钾 N-[(Perfluorooctyl)sulfonyl]glycine potassium salt (1:1) (FOSAA-K)	75260-69-4
47		全氟辛烷磺酰氨基乙酸钠 N-[(Perfluorooctyl)sulfonyl]glycine sodium salt (1:1) (FOSAA-Na)	115716-87-5

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48		全氟辛烷磺酰氨基乙酸盐 N-[(Perfluorooctyl)sulfonyl]glycinate (FOSAA (anion))	909405-47-6
49	--	双(2-全氟辛基磺酰基-N-氨乙基)磷酸 Bis[2-[N-ethyl(heptadecafluorooctanesulphonyl)amino]ethyl]hydrogen phosphate (EtFOSEdiPAPs)	2965-52-8

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	黑色本体（整体测试） Black body(Tested as a whole)

备注 Remark:

- 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.

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。
“*1”表示该项目/方法不在 CNAS 认可范围内。

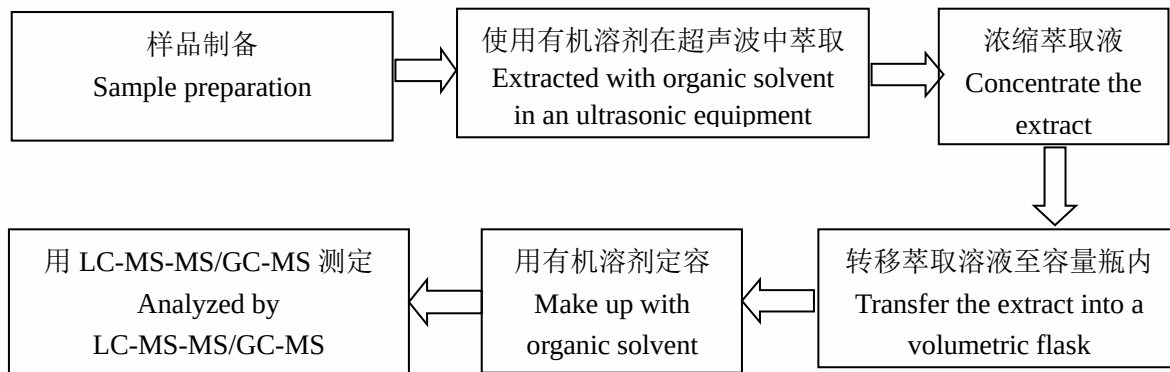
Note: The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.
“*1” indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.

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2.2 检测流程 Test Process



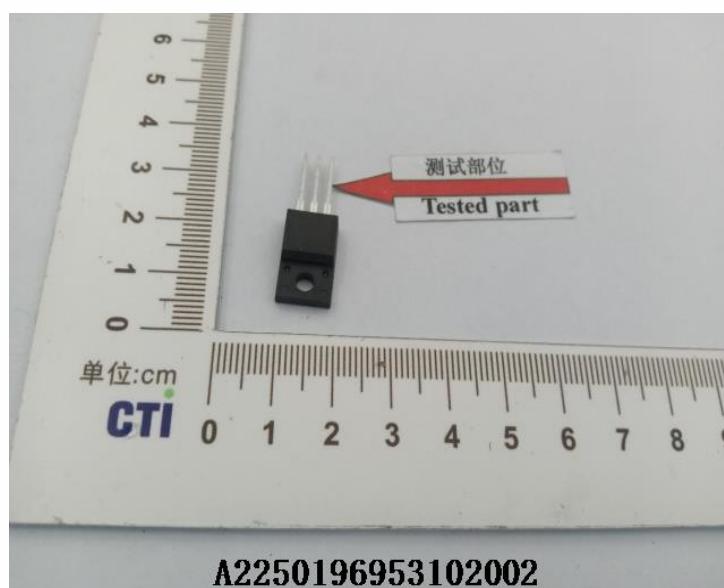
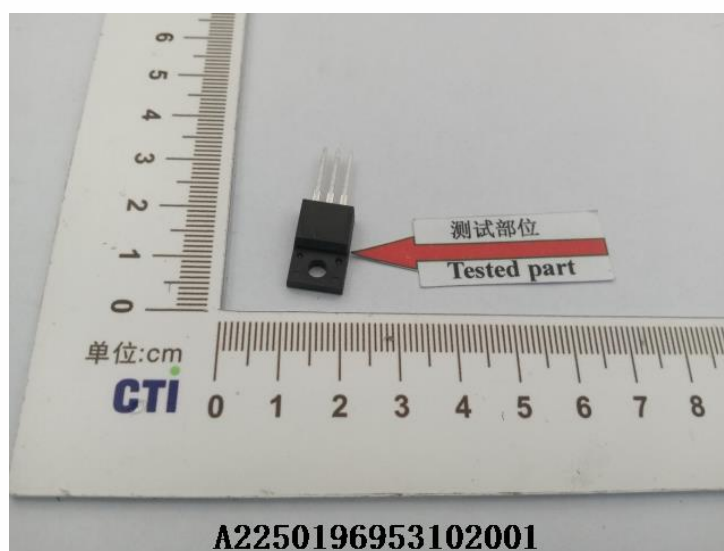
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样品图片

Photo(s) of the sample(s)



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声明 Statement:

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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;
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*** 报告结束 ***
*** End of Report ***

附录 Appendix

客户参考信息 Client Reference Information

TO-252/251、TO-220AB、TO-3PN、TO-3PH、TO-262/263、TO-247、PDFN、SOP8、TO-247PLUS、TO-247-2、TO-247-4、Toll、TO-263-7、TO-264 Lead Solder-Halogen free

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



声明 Statement:

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