检测报告
Test Report

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报告抬头公司名称 山东芯诺电子科技股份有限公司
Company Name shown on Report SHANDONG XINNUO ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD
地 址 中国山东省济宁市兖州区经济开发区创业路 7 号
Address NO.7 CHUANGYE ROAD, ECONOMIC DEVELOPMENT ZONE, YANZHOU DISTRICT, JINING CITY, SHANDONG PROVINCE, P.R.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

CTI 样品 ID CTI Sample ID	样品名称 Sample Name(s)
001	芯片（GPP & Triac）Chip（GPP & Triac）
002	芯片（SKY & MOS）Chip（SKY & MOS）
003	焊料 Solder
005	铝线 Al Wire
006	铜框架 Lead Frame
007	镀层 Tin Plating
008	环氧树脂成型材料（无卤）Epoxy Molding Compound（Halogen-free）

成品名称 二极管 / 三极管 / 整流桥
Final Product Name Diode/Triode/Bridge
样品接收日期 2024.11.23
Sample Received Date Nov. 23, 2024
样品检测日期 2024.11.23-2024.12.03
Testing Period Nov. 23, 2024 to Dec. 3, 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).

批 准 Approved by 郑晴涛 日 期 Date 2025.05.06

郑晴涛
技术经理 Technical Manager

华测检测认证集团股份有限公司 广东省深圳市宝安区新安街道兴东社区华测检测大楼
Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

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测试摘要 Executive Summary:

测试要求 TEST REQUEST	测试结果 CONCLUSION
1） 欧盟 RoHS 指令 2011/65/EU 及其修订指令(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	
- 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) Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP)	符合 PASS
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)，双酚 A (BPA)，全氟辛酸(PFOA)，邻苯二甲酸酯,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), Bisphenol A (BPA), Perfluorooctanoic Acid(PFOA), Phthalates,Red phosphorus in the submitted sample(s).	见结果页 See test result(s)
3） 欧盟持久性有机污染物(POPs)法规(EU) 2019/1021 及其修订指令 Regulation (EU) 2019/1021 on persistent organic pollutants (POPs) and its amendments	
- 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	见结果页 See test result(s)
- 全氟辛烷磺酸(PFOS)及其衍生物 Perfluorooctane sulfonic acid (PFOS) and its derivatives	符合 PASS
- 六溴环十二烷 Hexabromocyclododecane (HBCDD)	符合 PASS
- 短链氯化石蜡 Short Chain Chlorinated Paraffins (SCCPs)	符合 PASS
- 滴滴涕(1,1,1-三氯-2,2-二(对-氯苯基)乙烷) DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane)	符合 PASS
- 氯丹 Chlordane	符合 PASS
- 六氯环己烷，包括林丹 Hexachlorocyclohexanes, including Lindane	符合 PASS

-	狄氏剂	符合
	Dieldrin	**PASS**
-	异狄氏剂	符合
	Endrin	**PASS**
-	七氯	符合
	Heptachlor	**PASS**
-	硫丹	符合
	Endosulfan	**PASS**
-	十氯酮	符合
	Chlordecone	**PASS**
-	艾氏剂	符合
	Aldrin	**PASS**
-	灭蚁灵	符合
	Mirex	**PASS**
-	毒杀芬	符合
	Toxaphene	**PASS**
-	五氯苯	符合
	Pentachlorobenzene	**PASS**
-	六氯苯	符合
	Hexachlorobenzene	**PASS**
-	六溴联苯	符合
	Hexabromobiphenyl	**PASS**
-	多氯联苯	符合
	Polychlorinated Biphenyls(PCBs)	**PASS**
-	多氯化萘	符合
	Polychlorinated Naphthalenes (PCNs)	**PASS**
-	六氯丁二烯	符合
	Hexachlorobutadiene (HCBD)	**PASS**
-	五氯苯酚及其盐和酯	符合
	Pentachlorophenol and its salts and esters	**PASS**
-	全氟辛酸(PFOA)及其盐和相关物质	符合
	Perfluorooctanoic acid (PFOA) and its salts & related substances	**PASS**
-	三氯杀螨醇	符合
	Dicofol	**PASS**
-	全氟己基磺酸(PFHxS)及其盐和相关物质	符合
	Perfluorohexane-1-sulphonic acid (PFHxS) and its salts & related substances	**PASS**

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-	甲氧滴滴涕	**符合**
	Methoxychlor	**PASS**

**********详细结果，请见下页**********
********** For further details, please refer to the following page(s) **********

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检测依据 Test Method

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	IEC 62321-5:2013	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
多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)	AfPS GS 2019:01 PAK	GC-MS
铍 Beryllium(Be)	参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
	参考 US EPA 3052:1996 & US EPA 6010D:2018 Refer to US EPA 3052:1996 & US EPA 6010D:2018	
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
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
双酚 A Bisphenol A (BPA)	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
全氟辛酸 Perfluorooctanoic Acid(PFOA) *1	参考 DIN CEN/TS 15968:2010 Refer to DIN CEN/TS 15968:2010	LC-MS-MS
邻苯二甲酸酯 Phthalates	参考 EN 14372:2004(E) Refer to EN 14372:2004(E)	GC-MS

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测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
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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检测结果 1 Test Result(s) 1

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL	限值 Limit
	001	002	003		
铅 Lead (Pb)	43662 mg/kg#1	N.D.	876957 mg/kg#	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	N.D.	N.D.	8 mg/kg	1000 mg/kg
	--	--	--	0.10 μg/cm² (LOQ)	1000 mg/kg

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL	限值 Limit
	005	006	007		
铅 Lead (Pb)	N.D.	N.D.	27 mg/kg	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	--	--	--	8 mg/kg	1000 mg/kg
	N.D.▼	N.D.▼	N.D.▼	0.10 μg/cm² (LOQ)	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	008		
铅 Lead (Pb)	N.D.	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
	--	0.10 μg/cm² (LOQ)	1000 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	002	003		
多溴联苯 Polybrominated Biphenyls (PBBs)					
一溴联苯 Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	1000 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	限值 Limit
	008		
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	

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测试项目 Tested Item(s)	结果 Result			方法检出限 MDL	限值 Limit
	001	002	003		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)					
一溴二苯醚 Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	1000 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	限值 Limit
	008		
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	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	1000 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	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.	N.D.	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	008		
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

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检测结果 2 Test Result(s) 2

测试项目 Tested Item(s)	结果 Result 008	方法检出限 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
䓛 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)苝 Benzo(g,h,i)perylene	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
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(长时间接触)，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（短时间接触）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
䓛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,芘	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)

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	003	
铍 Beryllium (Be)	N.D.	N.D.	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	005	006	007	
铍 Beryllium (Be)	N.D.	N.D.	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	008	
锑 Antimony (Sb)	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	008	
氟 Fluorine (F)	N.D.	N.D.	N.D.	10 mg/kg
氯 Chlorine (Cl)	N.D.	N.D.	100 mg/kg	10 mg/kg
溴 Bromine (Br)	N.D.	N.D.	N.D.	10 mg/kg
碘 Iodine (I)	N.D.	N.D.	N.D.	10 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	008	
双酚 A Bisphenol A (BPA)	N.D.	1.0 mg/kg

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	008	
全氟辛酸 Perfluorooctanoic Acid (PFOA) *1	N.D.	0.010 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	008	
邻苯二甲酸酯 Phthalates		
邻苯二甲酸二正辛酯 Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	30 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
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*1	N.D.	30 mg/kg
邻苯二甲酸二乙酯 Diethyl phthalate (DEP) CAS#:84-66-2*1	N.D.	30 mg/kg
邻苯二甲酸二戊酯 Dipentyl phthalate (DPP/DPENP) CAS#:131-18-0*1	N.D.	30 mg/kg
邻苯二甲酸二环己酯 Dicyclohexyl phthalate (DCHP) CAS#:84-61-7*1	N.D.	30 mg/kg
邻苯二甲酸二壬酯 Dinonyl phthalate (DNP) CAS#:84-76-4*1	N.D.	30 mg/kg
邻苯二甲酸二己酯 Di-n-hexyl phthalate (DNHP/DHEXP) CAS#:84-75-3*1	N.D.	30 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.	30 mg/kg
邻苯二甲酸二异戊酯 Diisopentylphthalate (DIPP) CAS#:605-50-5*1	N.D.	30 mg/kg

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	008	
邻苯二甲酸二苯酯 Diphenyl phthalate (DPhP) CAS#:84-62-8*[1]	N.D.	30 mg/kg
邻苯二甲酸正戊基异戊基酯 N-Pentyl-isopentyl phthalate (NIPP) CAS#:776297-69-9*[1]	N.D.	30 mg/kg
①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.	50 mg/kg
①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.	50 mg/kg
①支链和直链 1,2-苯二羧二戊酯 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear (BADP) CAS#:84777-06-0*[1]	N.D.	50 mg/kg

测试项目 Tested Item(s)	结果 Result			方法检出限 MDL
	001	002	006	
红磷 Red phosphorus*[1]	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
	008	
红磷 Red phosphorus*[1]	N.D.	500 mg/kg

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备注: **-对于检测铅，镉，汞，锑，铍之样品已消解完全。**

-①:由于这些物质是 UVCB 物质(未知成分或可变成分的，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。

-#根据客户声明，样品涉及欧盟 RoHS 指令 2011/65/EU 豁免项第 7(a)条：高温熔融焊料中的铅（即：铅基合金中铅含量≥85%（Wt））。

-#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。

-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 μg/cm²

-▼六价铬浓度小于 0.10 μg/cm², 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。

Remark: **-The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Antimony, Beryllium.**

-①: 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.

-#According to the client's statement, the material of the sample(s) fall into exemption items 7(a) according to EU Directive 2011/65/EU: Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

-#1According 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.

-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 μg/cm²

-▼The sample is negative for Cr(VI) − The Cr(VI) concentration is below 0.10 μg/cm². 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.

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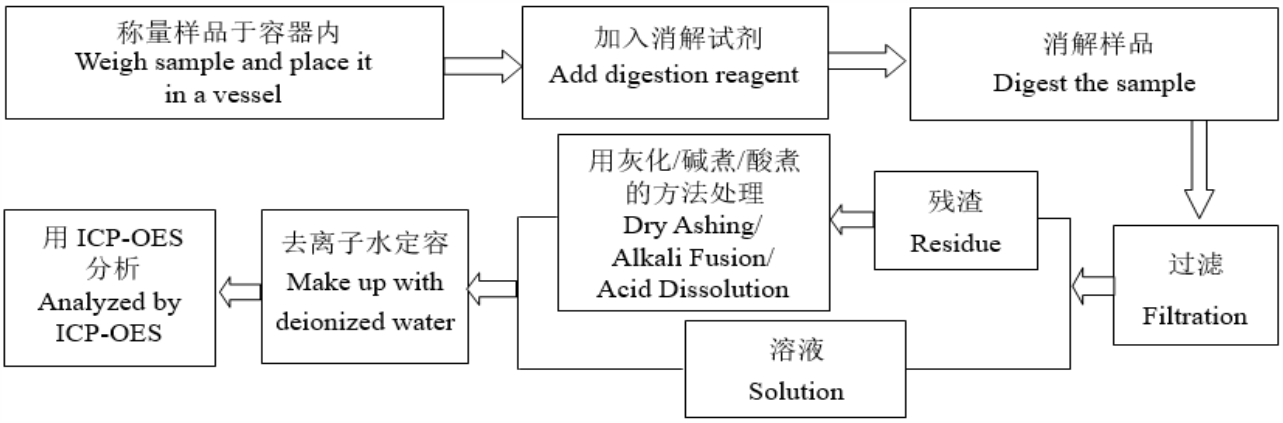
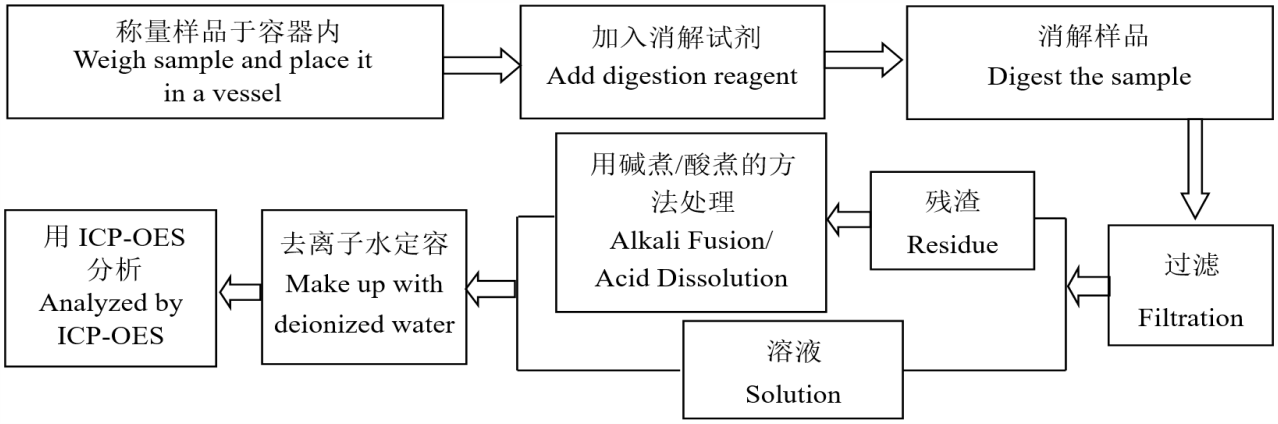
检测流程 Test Process

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

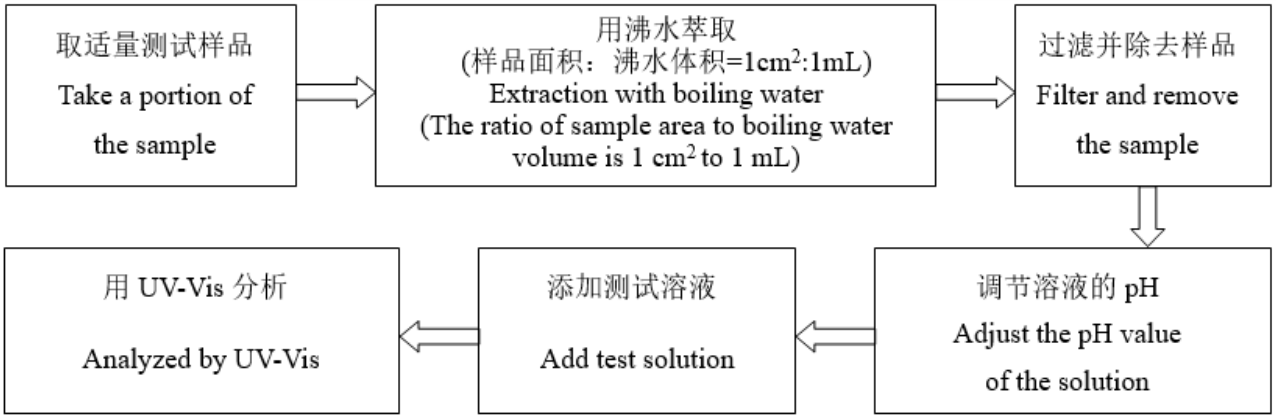


2. 汞 Mercury (Hg)

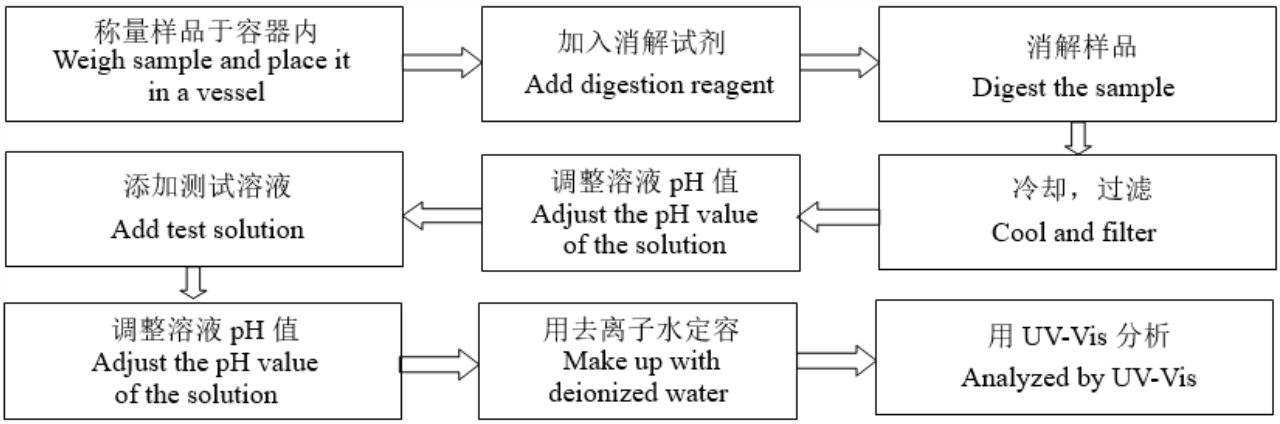


3. 六价铬 Hexavalent Chromium (Cr(VI))

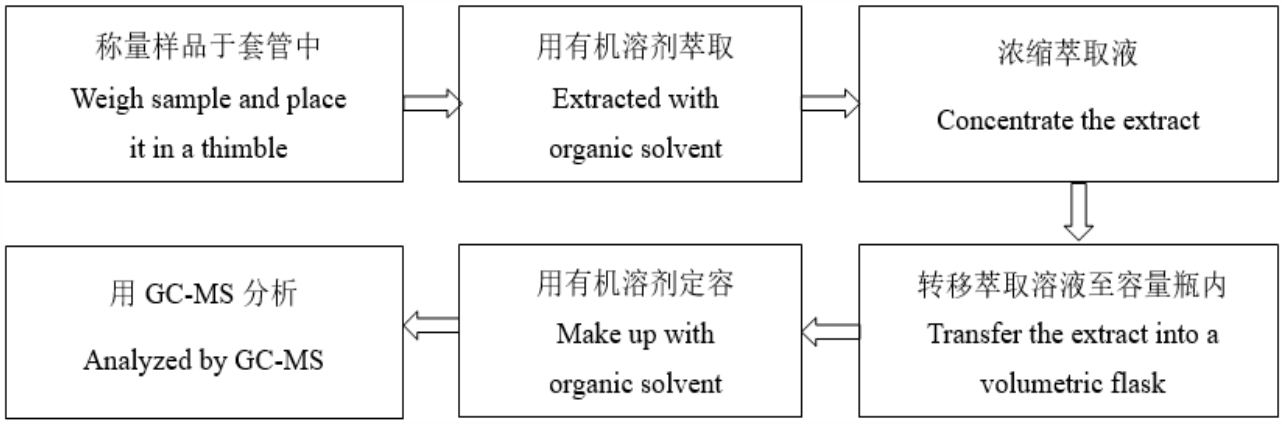
(1) IEC 62321-7-1:2015



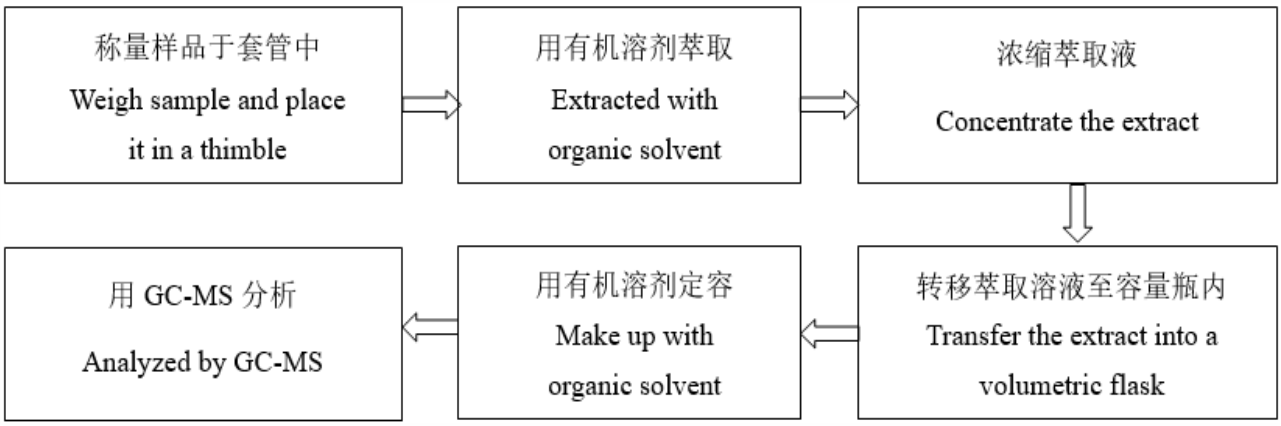
(2) IEC 62321-7-2:2017



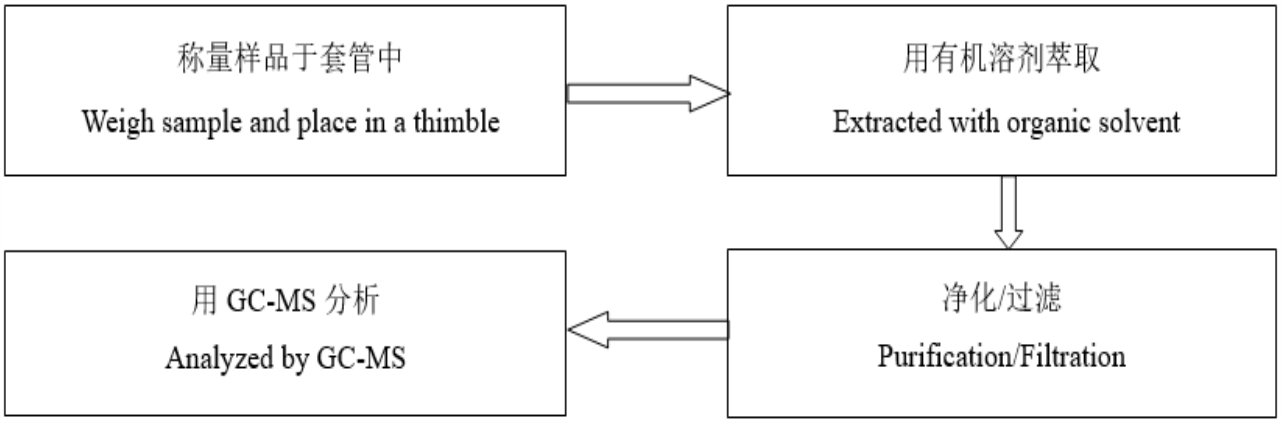
4. 多溴联苯 Polybrominated Biphenyls (PBBs)，多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



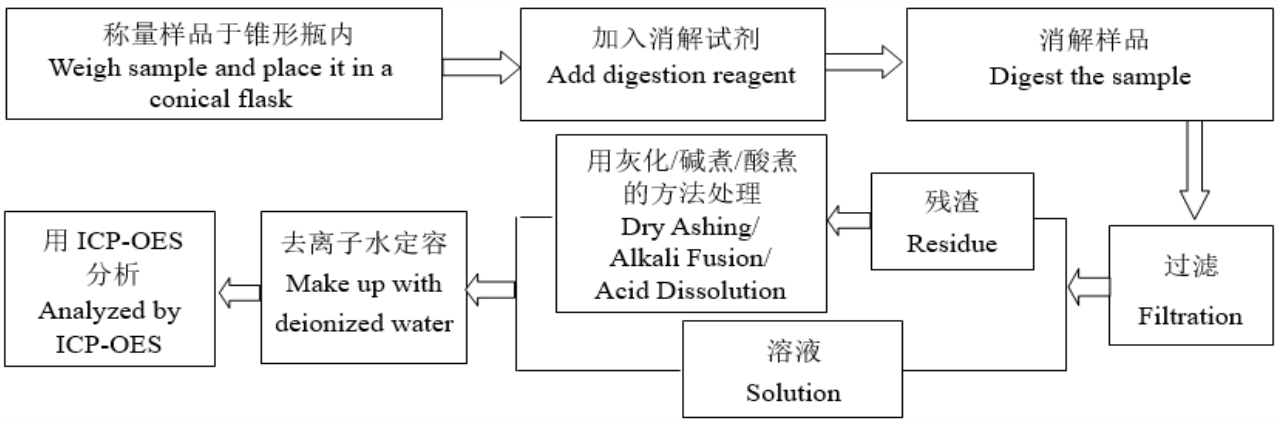
5. 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)



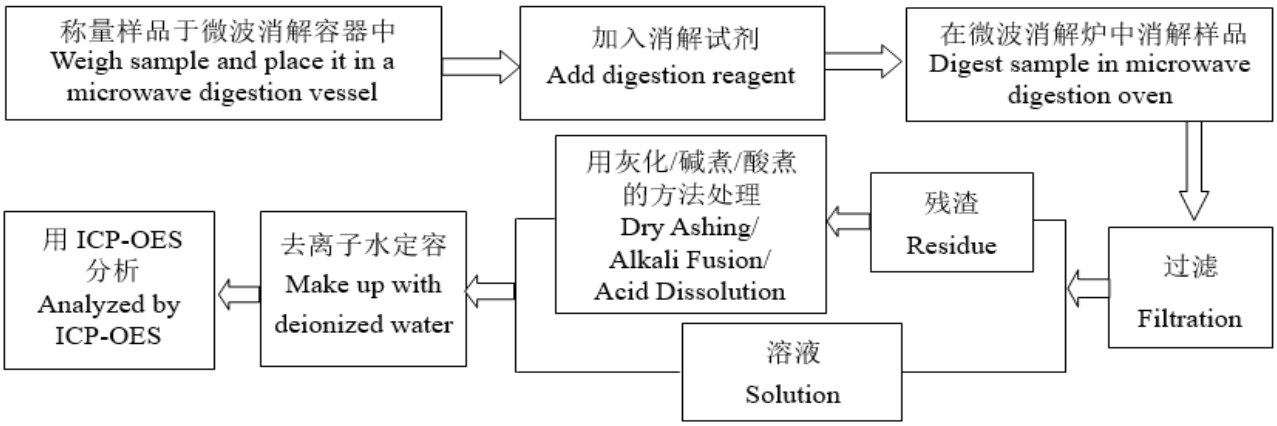
6. 多环芳烃 Polycyclic Aromatic Hydrocarbons (PAHs)



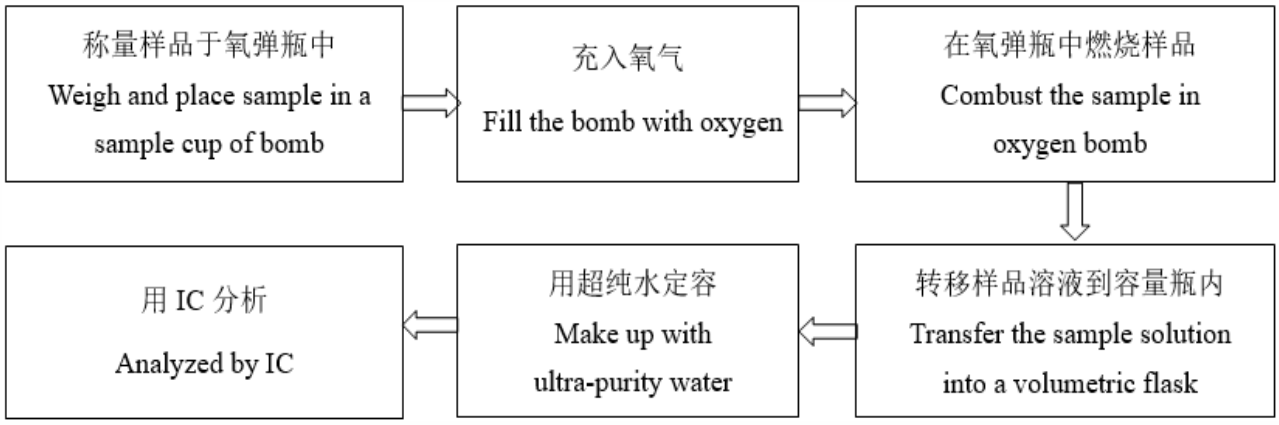
7. 铍 Beryllium(Be)



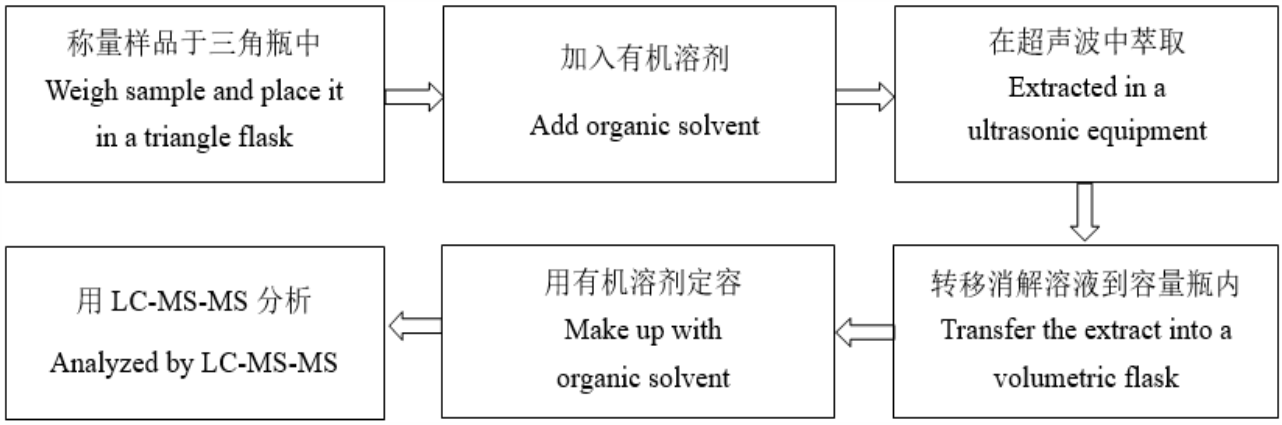
8. 铍 Beryllium(Be), 锑 Antimony(Sb)



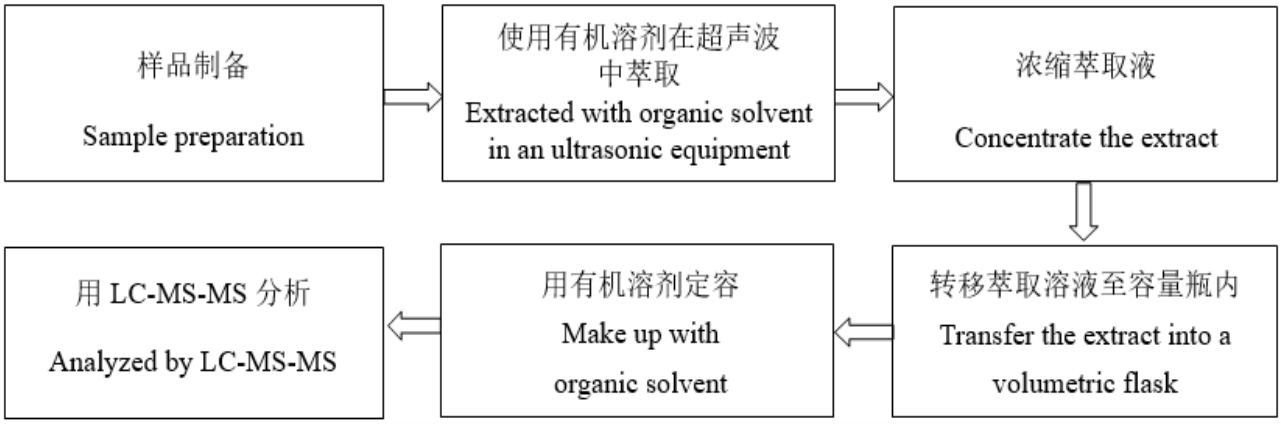
9. 氟 Fluorine (F), 氯 Chlorine (Cl), 溴 Bromine (Br), 碘 Iodine (I)



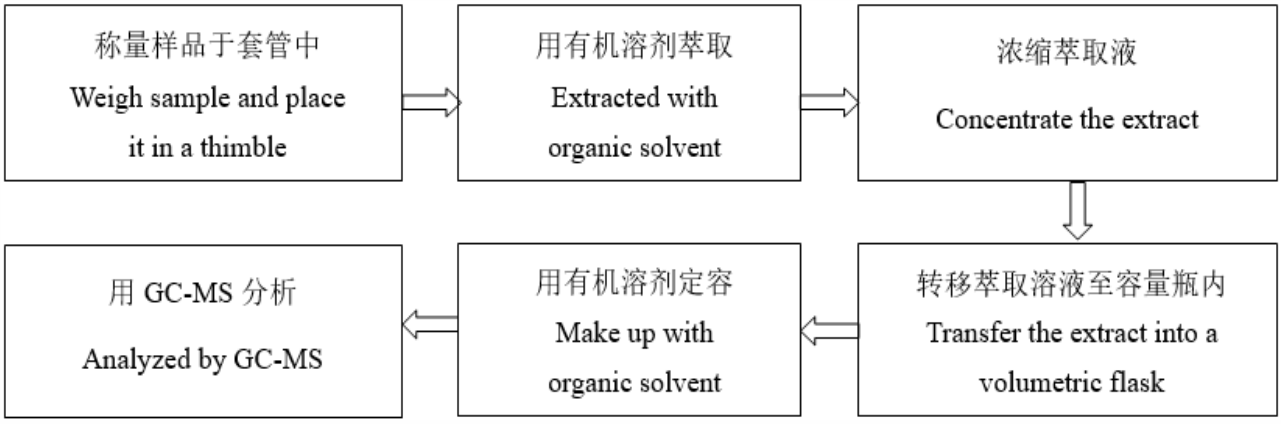
10. 双酚 A Bisphenol A (BPA)



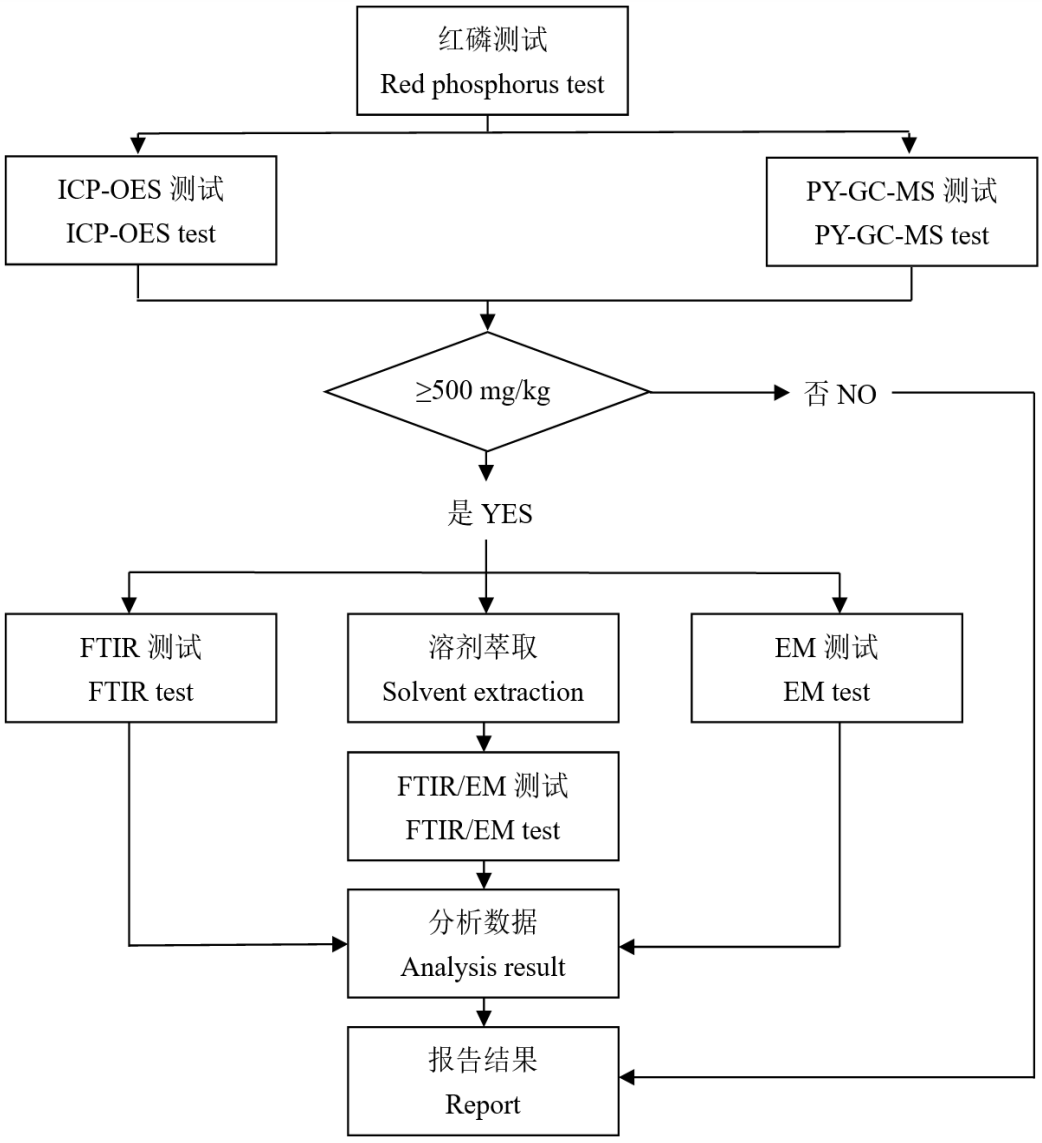
11. 全氟辛酸(PFOA)Perfluorooctanoic Acid(PFOA)



12. 邻苯二甲酸酯 Phthalates



13. 红磷 Red phosphorus



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检测结果 3 Test Result(s) 3

欧盟持久性有机污染物(POPs)法规(EU) 2019/1021 及其修订指令 Regulation (EU) 2019/1021 on persistent organic pollutants (POPs) and its amendments

▼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)
	008	
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

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

▼全氟辛烷磺酸(PFOS)及其衍生物 Perfluorooctane sulfonic acid (PFOS) and its derivatives[*1]

测试方法：EN 17681-1:2022&EN 17681-2:2022；测试仪器：LC-MS-MS & GC-MS

Test Method: EN 17681-1:2022&EN 17681-2:2022; 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)	限值 Limit (mg/kg)
			008		
1	全氟辛基磺酸 Perfluorooctanesulfonic acid (PFOS)	1763-23-1	N.D.	0.010	--
2	全氟辛基磺酸钠 Sodium perfluorooctane sulfonate (PFOS-Na)*	4021-47-0	N.D.	0.010	--
3	全氟辛基磺酸钾 Perfluorooctanesulfonic acid, potassium salt (PFOS-K)*	2795-39-3	N.D.	0.020	--

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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)	限值 Limit (mg/kg)
			008		
4	全氟辛基磺酸锂 Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)*	29457-72-5	N.D.	0.010	--
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-heptadecafluoro-, magnesium salt (2:1) (PFOS-Mg)*	91036-71-4	N.D.	0.020	--
6	全氟辛基磺酸铵 Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH_4)*	29081-56-9	N.D.	0.010	--
7	全氟辛基磺酸二乙醇铵 Perfluorooctane sulfonate diethanolamine salt (PFOS-$NH(OH)_2$)*	70225-14-8	N.D.	0.020	--
8	全氟辛基磺酸四乙基胺 Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-$N(C_2H_5)_4$)*	56773-42-3	N.D.	0.020	--
9	全氟辛烷磺酸四丁基铵 Tetrabutylammonium perfluorooctanesulfonate (PFOS-$NH(C_{16}H_{36})$)*	111873-33-7	N.D.	0.015	--
10	全氟辛基磺酸二癸二甲基铵 Didecyl dimethyl ammonium perfluorooctane sulfonate (PFOS-DDA)*	251099-16-8	N.D.	0.020	--
11	全氟辛基磺酰氟 Perfluoro-1-octanesulfonyl fluoride (PFOSF)*	307-35-7	N.D.	0.010	--
12	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-heptadecafluorooctanesulfonate*	71463-74-6	N.D.	0.020	--
13	全氟辛基磺酸四甲基胺 Tetramethylammonium perfluorooctane sulfonate (PFOS-$C_4H_{12}N$)*	56773-44-5	N.D.	0.010	--
14	全氟辛基磺酸二乙胺 Perfluorooctanesulfonic acid diethylamine salt (PFOS-$C_4H_{11}N$)*	2205029-08-7	N.D.	0.010	--
15	全氟辛基磺酸三乙胺 Triethylammonium perfluorooctane sulfonate (PFOS-$C_6H_{15}N$)*	54439-46-2	N.D.	0.010	--
16	全氟辛基磺酸三丁基甲基胺 N,N-Dibutyl-N-methylbutan-1-aminium heptadecafluorooctane-1-sulfonate (PFOS-$C_{13}H_{30}N$)*	124472-68-0	N.D.	0.015	--

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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)	限值 Limit (mg/kg)
			008		
17	全氟辛基磺酸戊基(三丙基)氮胺 N,N,N-Tripropylpentan-1-aminium heptadecafluorooctane-1-sulfonate (PFOS-$C_{14}H_{32}N$)*	56773-56-9	N.D.	0.015	--
18	全氟辛基磺酸四丁基膦 Tetrabutylphosphonium perfluorooctane sulfonate (PFOS-$C_{16}H_{36}P$)*	2185049-59-4	N.D.	0.015	--
19	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 heptadecafluorooctane-1-sulfonate (PFOS-$C_{15}H_{30}NO_2$)*	1203998-97-3	N.D.	0.015	--
20	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	N.D.	0.020	--
21	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	N.D.	0.020	--
22	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	N.D.	0.020	--
23	全氟辛基磺酸酐 Perfluorooctane sulfonic anhydride (PFOSAN)*	423-92-7	N.D.	0.020	--
24	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	N.D.	0.020	--
25	全氟辛烷磺酸盐 Perfluorooctanesulfonate (PFOS (anion))*	45298-90-6	N.D.	0.010	--
26	氟虫胺 N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	N.D.	0.050	--
27	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	--
28	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	--

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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)	限值 Limit (mg/kg)
			008		
29	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	--
30	全氟辛基磺酰胺 Perfluorooctane sulfonamide (PFOSA)	754-91-6	N.D.	0.010	--
31	全氟辛基磺酰胺锂盐(1:1) Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)*	76752-79-9	N.D.	0.010	--
32	全氟辛基磺酰胺钠盐(1:1) Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)*	76752-78-8	N.D.	0.010	--
33	全氟辛基磺酰胺钾盐(1:1) Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)*	76752-70-0	N.D.	0.010	--
34	全氟辛基磺酰胺铵盐(1:1) Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH_4)*	76752-72-2	N.D.	0.010	--
35	全氟辛基磺酰胺三乙胺 Heptadecafluorooctane-1-sulphonamide, compound with triethylamine (1:1) (PFOSA-$C_6H_{15}N$)*	76752-82-4	N.D.	0.010	--
36	全氟辛烷磺酰氨基乙酸 Glycine, N-[(heptadecafluorooctyl)sulfonyl]- (FOSAA)	2806-24-8	N.D.	0.010	--
37	全氟辛烷磺酰氨基乙酸钾 N-[(Perfluorooctyl)sulfonyl]glycine potassium salt (1:1) (FOSAA-K)*	75260-69-4	N.D.	0.010	--
38	全氟辛烷磺酰氨基乙酸钠 N-[(Perfluorooctyl)sulfonyl]glycine sodium salt (1:1) (FOSAA-Na)*	115716-87-5	N.D.	0.010	--
39	全氟辛烷磺酰氨基乙酸盐 N-[(Perfluorooctyl)sulfonyl]glycinate (FOSAA (anion))*	909405-47-6	N.D.	0.010	--
40	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	N.D.	0.050	--
41	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	N.D.	0.050	--

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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)	限值 Limit (mg/kg)
			008		
42	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	N.D.	0.050	--
43	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	N.D.	0.050	--
44	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	N.D.	0.050	--
45	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	N.D.	0.050	--
46	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	N.D.	0.050	--
47	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	N.D.	0.050	--
48	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	--
49	总和 Total	--	N.D.	--	1000

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).
- 根据欧盟持久性有机污染物(POPs)法规(EU) 2019/1021，全氟辛烷磺酸(PFOS)及其衍生物被定义为一类化学物质，但法规中并未给出物质清单。结论是根据所测试的项目含量得出的。
  According to Regulation (EU) 2019/1021 on persistent organic pollutants (POPs), Perfluorooctane sulfonic acid (PFOS) and its derivatives are defined as a class of chemicals. There is not an official list in the regulation. The conclusion is based on the tested chemicals.

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▼六溴环十二烷 Hexabromocyclododecane (HBCDD) *1

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)	CAS No.	结果 Result (mg/kg)	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
		008		
六溴环十二烷 Hexabromocyclododecane (HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	N.D.	5	75

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
- “六溴环十二烷(HBCDD)”指：六溴环十二烷(HBCDD)、1,2,5,6,9,10-六溴环十二烷及其非对映异构体(α-HBCDD, β-HBCDD, γ-HBCDD)
  ‘Hexabromocyclododecane (HBCDD)’ means: Hexabromocyclododecane (HBCDD), 1,2,5,6,9,10-hexabromocyclododecane and its main diastereoisomers: α-HBCDD, β-HBCDD, γ-HBCDD

▼短链氯化石蜡 Short Chain Chlorinated Paraffins (SCCPs) *1

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

Test Method: Refer to US EPA 3550C:2007 & 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)
	008		
短链氯化石蜡 Short Chain Chlorinated Paraffins (SCCPs)	N.D.	100	1500

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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▼**滴滴涕(1,1,1-三氯-2,2-二(对-氯苯基)乙烷) DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane)** *1

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)
	008		
滴滴涕(1,1,1-三氯-2,2-二(对-氯苯基)乙烷) DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane)	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

▼**氯丹 Chlordane***1

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)
	008		
氯丹 Chlordane	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

▼六氯环己烷，包括林丹 **Hexachlorocyclohexanes, including Lindane***1

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)
	008		
六氯环己烷，包括林丹 Hexachlorocyclohexanes, including Lindane	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

▼狄氏剂 **Dieldrin***1

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)
	008		
狄氏剂 Dieldrine	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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▼异狄氏剂 Endrin*[1]

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)
	008		
异狄氏剂 Endrine	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

▼七氯 Heptachlor*[1]

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)
	008		
七氯 Heptachlor	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

▼硫丹 Endosulfan*[1]

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)
	008		
硫丹 Endosulfan	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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▼**十氯酮 Chlordecone***1

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)
	008		
十氯酮 Chlordecone	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

▼**艾氏剂 Aldrin***1

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)
	008		
艾氏剂 Aldrine	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

▼**灭蚁灵 Mirex**

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)
	008		
灭蚁灵 Mirex	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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▼**毒杀芬 Toxaphene***[1]

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)
	008		
毒杀芬 Toxaphene	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

▼**五氯苯 Pentachlorobenzene***[1]

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)
	008		
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***[1]

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)
	008		
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 MDL (mg/kg)	限值 Limit (mg/kg)
	008		
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)** *1

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)
	008		
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

▼**多氯化萘 Polychlorinated Naphthalenes (PCNs)** *1

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)
	008		
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)** *1

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)
	008		
六氯丁二烯 Hexachlorobutadiene	N.D.	20	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

▼五氯苯酚及其盐和酯 Pentachlorophenol and its salts and esters*1

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)
	008		
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.

▼全氟辛酸(PFOA)及其盐和相关物质 Perfluorooctanoic acid (PFOA) and its salts & related substances*1

测试方法：EN 17681-1:2022&EN 17681-2:2022；测试仪器：LC-MS-MS & GC-MS
Test Method: EN 17681-1:2022&EN 17681-2:2022; 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)	限值 Limit (mg/kg)
			008		
1	全氟辛酸 Perfluorooctanoic acid (PFOA)	335-67-1	N.D.	0.010	--
2	全氟辛酸铵 Ammonium pentadecafluorooctanoate (APFO)*	3825-26-1	N.D.	0.010	--
3	全氟辛酸钠 Sodium perfluorooctanoate (PFOA-Na)*	335-95-5	N.D.	0.020	--
4	全氟辛酸钾 Potassium perfluorooctanoate (PFOA-K)*	2395-00-8	N.D.	0.020	--
5	全氟辛酸银 Silver perfluorooctanoate (PFOA-Ag)*	335-93-3	N.D.	0.020	--
6	全氟辛氟 Perfluorooctanoyl fluoride (PFOA-F)*	335-66-0	N.D.	0.010	--
7	全氟辛酸锂 Lithium perfluorooctanoate (PFOA-Li)*	17125-58-5	N.D.	0.010	--
8	全氟辛酸铯 Cesium perfluorooctanoate (PFOA-Cs)*	17125-60-9	N.D.	0.020	--

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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)	限值 Limit (mg/kg)
			008		
9	全氟辛酸钴 Cobalt perfluorooctanoate (PFOA-Co)*	35965-01-6	N.D.	0.025	--
10	全氟辛酸铬 Chromium(III) perfluorooctanoate (PFOA-Cr)*	68141-02-6	N.D.	0.025	--
11	全氟辛酸四乙基铵 N,N,N-Triethylethanaminium perfluorooctanoate (PFOA-NH(C_8H_{19}))*	98241-25-9	N.D.	0.015	--
12	全氟辛酸四丙基铵 Tetrapropylammonium perfluorooctanoate (PFOA-NH($C_{12}H_{27}$))*	277749-00-5	N.D.	0.015	--
13	全氟辛酸 N,N,N-三甲基甲烷 Perfluorooctanoate N,N,N-Trimethylmethanaminium (PFOA-NH(C_4H_{11}))*	32609-65-7	N.D.	0.015	--
14	全氟辛酸-哌嗪 Pentadecafluorooctanoic acid-piperazine (2/1) (PFOA-NH($C_4H_{10}N$))*	423-52-9	N.D.	0.015	--
15	全氟辛酸钾水合物 Potassium pentadecafluorooctanoate-water (1/1/2) (PFOA-K(H_2O)$_2$)*	98065-31-7	N.D.	0.010	--
16	全氟辛酸乙胺 Perfluorooctanoic acid compd. with ethanamine (1:1) (PFOA-C_2H_7N)*	1376936-03-6	N.D.	0.010	--
17	全氟辛酸吡啶 Pentadecafluorooctanoic acid-pyridine (1/1) (PFOA-C_5H_5N)*	95658-47-2	N.D.	0.010	--
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	N.D.	0.015	--
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	N.D.	0.015	--
20	全氟辛酸盐 Pentadecafluorooctanoate (anion) (PFOA (anion))*	45285-51-6	N.D.	0.010	--
21	**全氟辛酸(PFOA)及其盐 Perfluorooctanoic acid (PFOA) and its salts**	-	N.D.	--	0.025
22	全氟辛酸酐 Perfluorooctanoic Anhydride (PFOAA)*	33496-48-9	N.D.	0.020	1

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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)	限值 Limit (mg/kg)
			008		
23	全氟辛酸甲酯 Methyl perfluorooctanoate (Me-PFOA)	376-27-2	N.D.	0.010	1
24	全氟辛酸乙酯 Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	N.D.	0.010	1
25	全氟正辛基碘烷 Perfluorooctyl iodide (PFOI)	507-63-1	N.D.	0.200	1
26	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	1
27	1H,1H,2H,2H-全氟癸磺酸 1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	N.D.	0.200	1
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	N.D.	0.200	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	N.D.	0.200	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	N.D.	0.200	1
31	1H,1H,2H,2H-全氟癸磺酸盐 2-(Perfluorooctyl)ethane-1-sulfonate (8:2 FTS (anion))*	481071-78-7	N.D.	0.200	1
32	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	1
33	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	1
34	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
35	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	1
36	双(2-(全氟乙基))磷酸 8:2 Fluorotelomer phosphate diester (8:2diPAP)	678-41-1	N.D.	0.200	1

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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)	限值 Limit (mg/kg)
			008		
37	双(2-(全氟乙基))磷酸钠 Sodium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)*	114519-85-6	N.D.	0.200	1
38	双(2-(全氟乙基))磷酸铵 Ammonium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-NH_4)*	93776-20-6	N.D.	0.200	1
39	双(2-(全氟乙基))磷酸二乙醇胺 Bis(2-hydroxyethyl)ammonium bis((perfluorooctyl)ethyl) hydrogen phosphate (8:2diPAP-$C_4H_{11}NO_2$)*	57677-97-1	N.D.	0.200	1
40	双(2-(全氟乙基))磷酸盐 8:2 Fluorotelomer phosphate diester ion (1-) (8:2diPAP (anion))*	1411713-91-1	N.D.	0.200	1
41	四丁基磷 2H,2H-全氟癸酸酯 Tetrabutylphosphonium 2H,2H-Perfluorodecanoate (H_2PFDA-P(C_4H_9)$_4$)	882489-14-7	N.D.	0.010	1
42	2H,2H,3H,3H-全氟十一酸 2H,2H,3H,3H-Perfluoroundecanoic acid (H_4PFUnA)	34598-33-9	N.D.	0.010	1
43	3-(全氟辛基)丙酸钾 Potassium 3-(perfluorooctyl)propanoate (H_4PFUnA-K)*	83310-58-1	N.D.	0.020	1
44	2H,2H,3H,3H-全氟十一酸锂 Lithium 3-(perfluorooctyl) propanoate (H_4PFUnA-Li)*	67304-23-8	N.D.	0.010	1
45	2H,2H-全氟癸酸 2H,2H-Perfluorodecanoate (H_2PFDA)	27854-31-5	N.D.	0.010	1
46	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	1
47	全氟癸基三氯硅烷 Perfluorooctylethyltrichlorosilane (FDTS)	78560-44-8	N.D.	0.200	1
48	全氟癸基三甲氧硅烷 Perfluorooctylethyltrimethoxysilane (FDTMOS)	83048-65-1	N.D.	0.200	1
49	双[2 - (全氟癸基)乙基]磷酸酯 Bis[2-(perfluorodecyl)ethyl] Phosphate (10:2 diPAP)	1895-26-7	N.D.	0.200	1

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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)	限值 Limit (mg/kg)
			008		
50	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-$C_4H_{11}O_2$)*	57677-98-2	N.D.	0.200	1
51	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	N.D.	0.200	1
52	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	N.D.	0.200	1
53	2H-全氟-2-癸烯酸 2H-Perfluoro-2-decenoic acid (8:2 FTUCA)	70887-84-2	N.D.	0.010	1
54	C8-14-全氟烷基乙醇 Alcohols, C8-14, gamma-omega-perfluoro (C8-14-PFEtOH)	68391-08-2	N.D.	0.200	1
55	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	1
56	**全氟辛酸(PFOA)相关物质 Perfluorooctanoic acid (PFOA) related substances**	-	N.D.	--	1

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).
- 根据欧盟持久性有机污染物(POPs)法规(EU) 2019/1021，全氟辛酸(PFOA)及其盐和相关物质被定义为一类化学物质，但法规中并未给出物质清单。结论是根据所测试的项目含量得出的。
  According to Regulation (EU) 2019/1021 on persistent organic pollutants (POPs), Perfluorooctanoic acid (PFOA) and its salts & related substances are defined as a class of chemicals. There is not an official list in the regulation. The conclusion is based on the tested chemicals.

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▼三氯杀螨醇 Dicofol*[1]

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)
	008		
三氯杀螨醇 Dicofol	N.D.	0.05	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

▼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*[1]

测试方法: EN 17681-1:2022&EN 17681-2:2022; 测试仪器: LC-MS-MS & GC-MS
Test Method: EN 17681-1:2022&EN 17681-2:2022; 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)	限值 Limit (mg/kg)
			008		
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.	0.010	--
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	--

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序号 No.	测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg) 008	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
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.	0.020	--
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.	0.010	--
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-$S_3(C_6H_5)_4(C_6H_4)_2$)*	421555-73-9	N.D.	0.020	--
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-$I(C_6H_4)_2(C_5H_{11})_2$)*	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-$S(C_6H_4)_3(C_4H_9)_3$)*	425670-70-8	N.D.	0.020	--

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序号 No.	测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg) 008	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
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_2H_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_6H_4)$_2$(C_4H_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_6H_5)$_2$$C_7H_7$)*	910606-39-2	N.D.	0.020	--
20	[4-[(2-甲基-1-氧代-2-丙烯-1-基)氧基]苯基]二苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C_6H_5)$_2$$C_{10}H_9O_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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序号 No.	测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg) 008	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
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-$P(C_6H_5)_3C_7H_7$)*	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-$N(C_4H_9)_4$)*	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-$N(C_2H_5)_4$)*	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_4H_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-$S(C_6H_5)_3$)*	144116-10-9	N.D.	0.020	--

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序号 No.	测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg) 008	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
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]吲哚-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-$C_{44}H_{37}N_2O_2$)*	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_6H_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	--
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_6H_4)$_2$(C_4H_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_7H_7)$_2C_6H_5$)*	341548-85-4	N.D.	0.020	--

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序号 No.	测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg) 008	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
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-($NC_{10}H_{14}$)$_3C_5H_4$)*	1310480-24-0	N.D.	0.020	--
35	N-[4-[[4-(二甲氨基)苯基][4-(乙胺基)-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_8H_{10})$_2C_{13}H_{12}$)*	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_8H_{10})$_2C_{17}H_{12}$)*	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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Test Report

序号 No.	测试项目 Tested Item(s)	CAS No.	结果 Result (mg/kg) 008	方法检出限 MDL (mg/kg)	限值 Limit (mg/kg)
39	2,2'-亚氨基二乙醇与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-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_2H_5O)$_2$)*	70225-16-0	N.D.	0.020	--
40	全氟己基磺酸四丁基鏻 Tetrabutylphosphonium perfluorohexane sulfonate (PFHxS-P(C_4H_9)$_4$)*	2310194-12-6	N.D.	0.020	--
41	**全氟己基磺酸(PFHxS)及其盐 Perfluorohexane-1-sulphonic acid (PFHxS) and its salts**	--	N.D.	--	0.025
42	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.	0.010	--
43	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	--
44	N-甲基全氟己烷磺酰胺 N-methylperfluorohexanesulfonamide (MeFHxSA)	68259-15-4	N.D.	0.100	--
45	**全氟己基磺酸(PFHxS)相关物质 Perfluorohexane-1-sulphonic acid (PFHxS) related substances**	--	N.D.	--	1

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).

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▼**甲氧滴滴涕 Methoxychlor***[1]

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)
	008		
甲氧滴滴涕 Methoxychlor	N.D.	0.01	0.01

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

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)[#2]
2	002	芯片（整体测试） Chip(Tested as a whole)[#2]
3	003	灰色膏体（干重） Grey paste(dry weight)[#3]
4	005	银色金属线 Silvery metal wire
5	006	铜色金属 Cupreous metal
6	007	银色金属 Silvery metal
7	008	深灰色固体 Dark grey solid

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注释 Note:

- #2 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.
- #3 测试样品经过 105 ℃ 烘烤 2 小时后测试。
  The sample was tested after drying for 2 hours under 105 ℃.
- 本报告的测试结果(除样品 008)引自于报告 A224073385410101ER1。
  The test result(s) (except for Sample 008) is(are) presented in reference to the result(s) that reported in A224073385410101ER1.
- 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。
  The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.
- “*1”表示该项目/方法不在 CNAS 认可范围内。
  “*1”Indicates the method(s)/ item(s) is/are not in CNAS accreditation scope.
- 本报告于原报告(报告编号 A224073385410102ER3)基础上修改了“附录”。本报告替换原报告 A224073385410102ER3，自本报告签发之日起，原报告 A224073385410102ER3 作废。
  This testing report revised “Appendix” based on the original report of No. A224073385410102ER3. This testing report displaces the original one which was invalid since the date of this testing report released.

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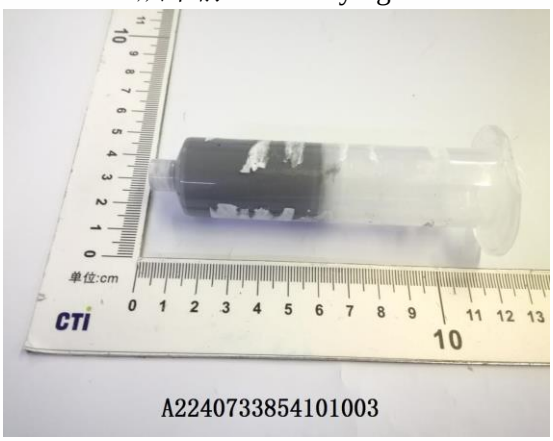
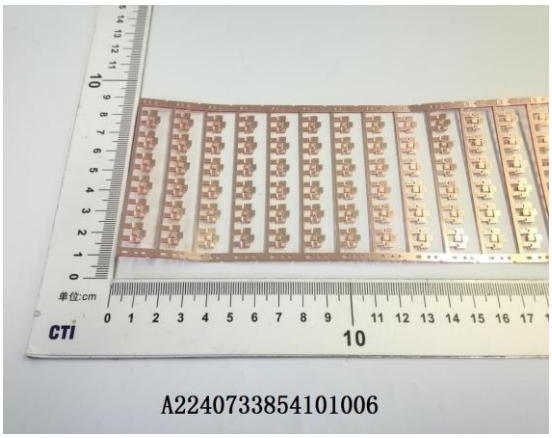
样品图片

Photo(s) of the sample(s)

烘干前 before drying

烘干后 after drying





检测报告
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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. 除非另有说明，报告参照 ILAC-G8:09/2019 / CNAS-GL015:2022 使用简单接受（w=0）二元判定规则进行符合性判定; Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019 / CNAS-GL015:2022;
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   In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

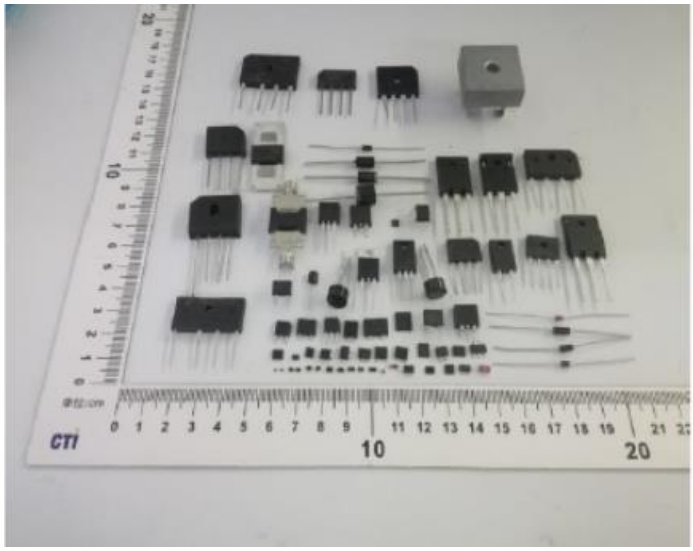
*** 报告结束 ***
*** End of Report ***

附录 Appendix

客户参考信息 Client Reference Information

R-1/A-405/DO-41/DO-15/DO-201AD/R-6/D3K/KBP/GBU/GBJ/DBS/DBM/DBF/MBF/MBS/MBM/ABS/ABF/SMA/SMAF/SMB/SMBF/SMC/HBS/JC/QC3Q/GFM/SOD-123FL/TO-277B/GBL/KBL/KBLJ/KBJ/KBU/KBPC/GBPC/WOB/WOM/DFN/QFN/LBF/LBS/SOT-23/SOT-89/SOT-143/SOT-223/SOT-323/SOT-363/SOT-553/SOT-563/SOD-123/SOD-323/SOD-523/SOD-723/SOD-923/MELF/DO-35/LL-34/LL-41/ITO-220/TO-220/TO-262/TO-263/TO-251/TO-252/TO-3P/TO-3PF/TO-126/TO-247/TO-92/SOP-8

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



声明 Statement:

1. 附录内容由申请者提供，申请者应对其真实性负责，CTI 未核实其真实性。
   The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
2. 附录内容为 A224073385410102ER4 报告的补充。
   The Appendix Information is/are the supplement(s) for the Report A224073385410102ER4.