



检测报告

Test Report

报告编号 A2240744122103001E
Report No. A2240744122103001E

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报告抬头公司名称 广东风华高新科技股份有限公司先华新型敏感元件分公司
Company Name GUANGDONG FENGHUA ADVANCED TECHNOLOGY HOLDING CO., LTD.
shown on Report XIANHUA NEW SENSITIVE COMPONENTS BRANCH COMPANY
地 址 广东省肇庆市风华路 18 号风华电子工业城
Address FENGHUA ELECTRONIC INDUSTRIAL CITY, 18TH FENGHUA ROAD, ZHAOQING, GUANGDONG, PRC.

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	压敏电阻
Sample Name	Varistor
样品颜色	黄色
Color	yellow
样品接收日期	2024.11.28
Sample Received Date	Nov. 28, 2024
样品检测日期	2024.11.28-2024.12.03
Testing Period	Nov. 28, 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

夏清

授权签字人

Lab Authorized Signatory

日 期

Date

2024.12.03



检测检测用集团股份有限公司

Centre Testing International Group Co., Ltd.

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测试摘要 Executive Summary:

测试要求

TEST REQUEST

- 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)
 - 全氟辛烷磺酸(PFOS)及其衍生物
Perfluorooctane sulfonic acid (PFOS) and its derivatives
 - 六溴环十二烷
Hexabromocyclododecane (HBCDD)
 - 短链氯化石蜡
Short Chain Chlorinated Paraffins (SCCPs)
 - 五氯苯
Pentachlorobenzene
 - 六氯苯
Hexachlorobenzene
 - 六溴联苯
Hexabromobiphenyl
 - 多氯联苯
Polychlorinated Biphenyls(PCBs)
 - 多氯化萘
Polychlorinated Naphthalenes (PCNs)
 - 六氯丁二烯
Hexachlorobutadiene (HCBD)
 - 五氯苯酚及其盐和酯
Pentachlorophenol and its salts and esters
 - 全氟辛酸(PFOA)及其盐和相关物质
Perfluorooctanoic acid (PFOA) and its salts & related substances
 - 全氟己基磺酸(PFHxS)及其盐和相关物质
Perfluorohexane-1-sulphonic acid (PFHxS) and its salts & related substances

测试结果

CONCLUSION

见结果页
See test result(s)

符合
PASS

符合
PASS

符合
PASS

符合
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PASS

*****详细结果, 请见下页*****

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

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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)
	001	
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[#]

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)
			001		
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)
			001		
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-heptafluoro-, 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铵 Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C ₂ H 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-heptafluorooctanesulfonate*	71463-74-6	N.D.	0.020	--
13	全氟辛基磺酸四甲基铵 Tetramethylammonium perfluorooctane sulfonate (PFOS-C ₄ H 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 ₄ H ₁₁ N)*	2205029-08-7	N.D.	0.010	--
15	全氟辛基磺酸三乙胺 Triethylammonium perfluorooctane sulfonate (PFOS-C ₆ H 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 heptafluorooctane-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)
			001		
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磷 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 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)
			001		
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 ₆ H 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)
			001		
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) #**

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)
		001		
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) #**

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)
	001		
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)
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▼ 五氯苯 Pentachlorobenzene[#]

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限	限值 Limit
	001	MDL (mg/kg)	(mg/kg)
五氯苯 Pentachlorobenzene	N.D.	5	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼ 六氯苯 Hexachlorobenzene[#]

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

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

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

▼ 六溴联苯 Hexabromobiphenyl

测试方法: IEC 62321-6:2015; 测试仪器: GC-MS

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限	限值 Limit
	001	MDL (mg/kg)	(mg/kg)
六溴联苯 Hexabromobiphenyl	N.D.	5	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
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▼ 多氯联苯 Polychlorinated Biphenyls(PCBs)

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限	限值 Limit
	001	MDL (mg/kg)	(mg/kg)
多氯联苯 Polychlorinated Biphenyls(PCBs)	N.D.	5	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼ 多氯化萘 Polychlorinated Naphthalenes (PCNs)

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

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

测试项目 Tested Item(s)	结果 Result (mg/kg)	方法检出限	限值 Limit
	001	MDL (mg/kg)	(mg/kg)
多氯化萘 Polychlorinated Naphthalenes (PCNs)	N.D.	5	N.D.

备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million

▼ 六氯丁二烯 Hexachlorobutadiene (HCBd)

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

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

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

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

测试方法: 参考 ISO 17070:2015; 测试仪器: GC-MS

Test Method: Refer to ISO 17070:2015; Test Equipment: GC-MS

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

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	限值 Limit
			001	MDL (mg/kg)	(mg/kg)
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	--
9	全氟辛酸钴 Cobalt perfluorooctanoate (PFOA-Co)*	35965-01-6	N.D.	0.025	--

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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)
			001			
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 ₈ H 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 ₄ H ₁₁))*	32609-65-7	N.D.		0.015	--
14	全氟辛酸-哌嗪 Pentadecafluorooctanoic acid-piperazine (2/1) (PFOA-NH(C ₄ H 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 ₂ O) ₂)*	98065-31-7	N.D.		0.010	--
16	全氟辛酸乙胺 Perfluorooctanoic acid compd. with ethanamine (1:1) (PFOA-C ₂ H ₇ N)*	1376936-03-6	N.D.		0.010	--
17	全氟辛酸吡啶 Pentadecafluorooctanoic acid-pyridine (1/1) (PFOA-C ₅ H ₅ N)*	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
23	全氟辛酸甲酯 Methyl perfluorooctanoate (Me-PFOA)	376-27-2	N.D.		0.010	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)
			001		
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-heptafluorodecyl 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- heptafluoro-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
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

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			001		
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 ₄ H 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 ₂ PFDA-P(C ₄ H 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 ₄ PFUnA)	34598-33-9	N.D.	0.010	1
43	3-(全氟辛基)丙酸钾 Potassium 3-(perfluorooctyl)propanoate (H ₄ PFUnA-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 ₄ PFUnA-Li)*	67304-23-8	N.D.	0.010	1
45	2H,2H-全氟癸酸 2H,2H- Perfluorodecanoate (H ₂ PFDA)	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, 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
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 ₄ H ₁₁ O ₂)*	57677-98-2	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)
			001		
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-全氟辛基乙酰乙酸酯 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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▼ 全氟己基磺酸(PFHxS)及其盐和相关物质 Perfluorohexane-1-sulphonic acid (PFHxS) and its salts & related substances#

测试方法: 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)
			001		
1	全氟己基磺酸 Perfluorohexanesulfonic acid (PFHxS)	355-46-4	N.D.	0.010	--
2	全氟己基磺酸钠 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, sodium salt (PFHxS-Na)*	82382-12-5	N.D.	0.020	--
3	全氟己基磺酸钾 Potassium perfluorohexane-1-sulphonate (PFHxS-K)*	3871-99-6	N.D.	0.020	--
4	全氟己基磺酸锂 1-Hexanesulfonic acid,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt(1:1) (PFHxS-Li)*	55120-77-9	N.D.	0.010	--
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	--
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	--

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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)
			001		
12	全氟己基磺酰氯 1,1,2,2,3,3,4,4,5,5,6,6,6- Tridecafluorohexane-1-sulphonyl chloride (PFHxS-Cl)*	55591-23-6	N.D.	0.020	--
13	全氟己烷磺酸盐 Perfluorohexylsulfonate (PFHxS(anion))*	108427-53-8	N.D.	0.010	--
14	(二-4,1-苯撑硫)双二苯基硫与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基 磺酸(1:2)的盐 Sulfonium, (thiodi-4,1- phenylene)bis[diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- 1-hexanesulfonic acid (1:2) (PFHxS-S ₃ (C ₆ H ₅) ₄ (C ₆ H ₄) ₂)*	421555-73-9	N.D.	0.020	--
15	二[4-(1,1-二甲基丙基)苯基]碘与 1,1, 2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺 酸的盐 Iodonium, bis[4-(1,1- dimethylpropyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1- hexanesulfonic (PFHxS-I(C ₆ H ₄) ₂ (C ₅ H ₁₁) ₂)*	421555-74-0	N.D.	0.020	--
16	三[4-(1,1-二甲基乙基)苯基]硫-1,1,2,2, 3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯 Sulfonium, tris[4-(1,1- dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4, 5,5,6,6,6-tridecafluoro-1- hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₄) ₃ (C ₄ H ₉) ₃)*	425670-70-8	N.D.	0.020	--
17	1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基 磺酸锌与 N,N-二乙基乙胺(1:1) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5, 5,6,6,6-tridecafluoro-, compd. with N,N- diethylethanamine (1:1) (PFHxS-N(C ₂ H ₅) ₃)*	72033-41-1	N.D.	0.020	--
18	二[(1,1-二甲基乙基)苯基]碘与 1,1,2,2, 3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸的 盐(1:1) (9CI) Iodonium, bis[(1,1- dimethylethyl)phenyl]-, salt with 1,1,2, 2,3,3,4,4,5,5,6,6,6-tridecafluoro-1- hexanesulfonic acid (1:1) (9CI) (PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)*	866621-50-3	N.D.	0.020	--

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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)
			001		
19	(4-甲基苯基)二苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, (4-methylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₅) ₂ C ₇ H ₇)*	910606-39-2	N.D.	0.020	--
20	[4-[(2-甲基-1-氧代-2-丙烯-1-基)氧基]苯基]二苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₅) ₂ C ₁₀ H ₉ O ₂)*	911027-68-4	N.D.	0.020	--
21	[4-[(2-甲基-1-氧代-2-丙烯基)氧基]苯基]二苯基硫与 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[3.3.1.1 ^{3,7}]癸-2-甲基-2-丙烯酸酯、3-羟基三环[3.3.1.1 ^{3,7}]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[3.3.1.1 ^{3,7}]dec-2-yl 2-methyl-2-propenoate, 3-hydroxytricyclo[3.3.1.1 ^{3,7}]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate*	911027-69-5	N.D.	0.020	--
22	二苯并[k,n][1,4,7,10,13]四氧硫酰氯代十六烷基铵, 19-[4-(1,1-二甲基乙基)苯基]-6,7,9,10,12,13-六氢-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Dibenzo[k,n][1,4,7,10,13]tetraoxathiacyclopentadecinium, 19-[4-(1,1-dimethylethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-SC ₂₈ H ₃₁ O ₄)*	928049-42-7	N.D.	0.020	--
23	三苯基(苯甲基)膦-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Phosphonium, triphenyl(phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-P(C ₆ H ₅) ₃ C ₇ H ₇)*	1000597-52-3	N.D.	0.020	--

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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)
			001		
24	N,N,N-三丁基-1-丁胺与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸的盐 1-Butanaminium, N,N,N-tributyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (PFHxS-N(C ₄ H ₉) ₄)*	108427-54-9	N.D.	0.020	--
25	N,N,N-三乙基乙胺与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:1)的盐 Ethanaminium, N,N,N-triethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (PFHxS-N(C ₂ H ₅) ₄)*	108427-55-0	N.D.	0.020	--
26	吡咯烷与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:1)的盐 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with pyrrolidine (1:1) (PFHxS-NC ₄ H ₉)*	1187817-57-7	N.D.	0.020	--
27	三苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, triphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₅) ₃)*	144116-10-9	N.D.	0.020	--
28	1-(羧甲基)-4-[2-[4-[4-(2,2-二苯基乙烯基)苯基]-1,2,3,3a,4,8b-六氢旋流器戊烷[b]吡啶-7-基]乙烯基]喹啉-十三氟-1-己基磺酸酯(1:1) Quinolinium, 1-(carboxymethyl)-4-[2-[4-[4-(2,2-diphenylethenyl)phenyl]-1,2,3,3a,4,8b-hexahydrocyclopent[b]indol-7-yl]ethenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-C ₄₄ H ₃₇ N ₂ O ₂)*	1462414-59-0	N.D.	0.020	--
29	二苯基碘-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Iodonium, diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-I(C ₆ H ₅) ₂)*	153443-35-7	N.D.	0.020	--
30	N,N,N-三甲基甲胺与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:1)的盐 Methanaminium, N,N,N-trimethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (PFHxS-N(CH ₃) ₄)*	189274-31-5	N.D.	0.020	--

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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)
			001		
31	2-甲基-2-丙胺与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸(1:1)的盐 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with 2-methyl-2-propanamine (1:1) (PFHxS-NH ₂ (CH ₃) ₃)*	202189-84-2	N.D.	0.020	--
32	二[4-(1,1-二甲基乙基)苯基]碘-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)*	213740-81-9	N.D.	0.020	--
33	二(4-甲基苯基)苯基硫-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Sulfonium, bis(4-methylphenyl)phenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₇ H ₇) ₂ C ₆ H ₅)*	341548-85-4	N.D.	0.020	--
34	N-[4-[[4-(二乙氨基)苯基][4-(乙氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-乙基乙胺-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₁₀ H ₁₄) ₃ C ₅ H ₄)*	1310480-24-0	N.D.	0.020	--
35	N-[4-[[4-(二甲氨基)苯基][4-(乙氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-甲基甲铵-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₈ H ₁₀) ₂ C ₁₃ H ₁₂)*	1310480-27-3	N.D.	0.020	--

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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)
			001		
36	N-[4-[[4-(二甲氨基)苯基][4-(苯氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-甲基甲铵-1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸酯(1:1) Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₈ H ₁₀) ₂ C ₁₇ H ₁₂)*	1310480-28-4	N.D.	0.020	--
37	β-环糊精与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸根(1-)(1:1)形成的化合物 Beta-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-)(1:1) (PFHxS-C ₄₂ H ₇₀ O ₃₅)*	1329995-45-0	N.D.	0.020	--
38	γ-环糊精与 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己基磺酸根(1-)(1:1)形成的化合物 Gamma-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-)(1:1) (PFHxS-C ₄₈ H ₈₀ O ₄₀)*	1329995-69-8	N.D.	0.020	--
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 ₂ H ₅ O) ₂)*	70225-16-0	N.D.	0.020	--
40	全氟己基磺酸四丁基磷 Tetrabutylphosphonium perfluorohexane sulfonate (PFHxS-P(C ₄ H 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	--

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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)
			001		
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).

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	有棕色印字的黄色本体 (整体测试) Yellow body with brown printing(Tested as a whole)

注释 Note:

- 按照目前手段，样品无法进一步拆分，样品整体测试，测试结果不代表整体测试样品中任何一种单一材质的含量。The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology. The result(s) shown on this report may be different from the content of any homogeneous material.
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The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.

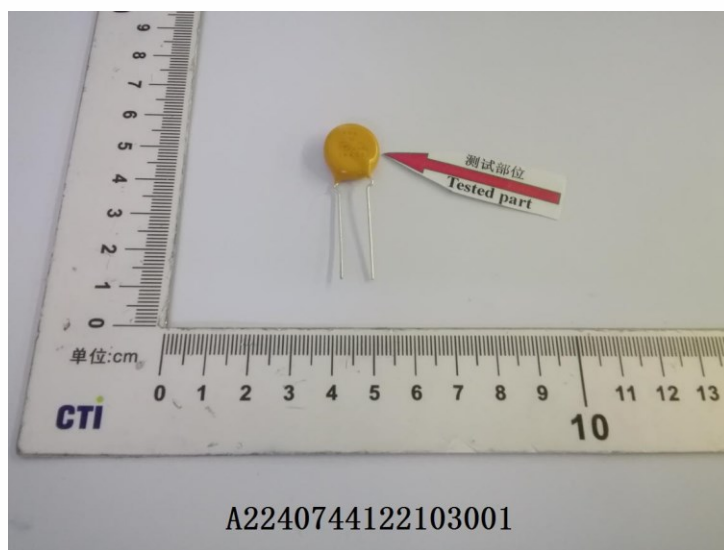
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样品图片

Photo(s) of the sample(s)



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