

检测报告

编号: TAOEC2308789610

日期: 2023年12月12日 第1页,共7页

客户名称: 安徽积芯微电子科技有限公司

客户地址: 中国(安徽)自由贸易试验区蚌埠片区禹会区姜桥路2999号

样品名称: 芯片封装测试产品

客户参考信息: PDFN5*6、PDFN3.3*3.3、TOLLA-8L、TO-220、TO-247、TO-252、TO-263、TO-3P

以上样品及信息由客户提供。

SGS工作编号: SHP23-020799 - QD

样品接收日期: 2023年12月05日

检测周期: 2023年12月05日 - 2023年12月12日

检测要求: 根据客户要求检测

检测方法: 请参见下一页

检测结果: 请参见下一页

检测结果概要:

	检测要求	结论
1	欧盟POPs法规 (EU) 2019/1021 附录I 及其修正法规 (EU) 2020/784 - 全氟辛酸 (PFOA)及其盐, 全氟辛酸相关物质和全氟辛烷磺酸(PFOS)及其衍生物	符合
2	欧盟POPs法规 (EU) 2019/1021 附录I及其修正法规(EU) 2023/1608 - 全氟己烷磺酸 (PFHxS)及其盐和相关化合物	符合

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检测结果:

检测样品描述:

样品编号	SGS样品ID	描述
SN1	TAO23-087896.003	带银色金属引脚的黑色本体

备注:

- (1) 1 mg/kg = 0.0001%
- (2) MDL = 方法检测限
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

欧盟POPs法规 (EU) 2019/1021 附录I 及其修正法规 (EU) 2020/784 - 全氟辛酸(PFOA)及其盐, 全氟辛酸相关物质和全氟辛烷磺酸(PFOS)及其衍生物

检测方法: 优化的CEN/TS 15968:2010, 采用LC-MS或LC-MS/MS和GC-MS进行分析。

检测项目	CAS No.	限值	Unit (s)	MDL	003
PFOS及其盐和相关物质					
全氟辛烷磺酸 (PFOS), 及其盐 [^]	1763-23-1	-	mg/kg	0.010	ND
N-乙基全氟辛烷磺酰胺 (N-EtFOSA)	4151-50-2	-	mg/kg	0.010	ND
N-甲基全氟辛烷磺酰胺 (N-MeFOSA)	31506-32-8	-	mg/kg	0.010	ND
2- (N-乙基全氟辛基磺酰胺)乙醇 (N-EtFOSE)	1691-99-2	-	mg/kg	0.010	ND
2- (N-甲基全氟辛基磺酰胺)乙醇 (N-MeFOSE)	24448-09-7	-	mg/kg	0.010	ND
全氟辛基磺酰胺 (PFOSA), 及其盐 [^]	754-91-6	-	mg/kg	0.010	ND
全氟辛烷磺酸 (PFOS)及其衍生物	-	10	mg/kg	-	ND
PFOA, 及其盐					
全氟辛酸 (PFOA), 及其盐 [^]	335-67-1	0.025	mg/kg	0.010	ND
PFOA相关物质					
1H, 1H, 2H, 2H-全氟癸烷磺酸 (8:2 FTS), 及其盐 [^]	39108-34-4	-	mg/kg	0.010	ND
全氟辛酸甲酯 (Me-PFOA)	376-27-2	-	mg/kg	0.100	ND
全氟辛酸乙酯 (Et-PFOA)	3108-24-5	-	mg/kg	0.100	ND
1H, 1H, 2H, 2H-全氟癸基丙烯酸酯 (8:2 FTA)	27905-45-9	-	mg/kg	0.100	ND
1H, 1H, 2H, 2H-甲基丙烯酸全氟癸酯 (8:2 FTMA)	1996-88-9	-	mg/kg	0.100	ND
全氟辛基碘烷 (PFOI)	507-63-1	-	mg/kg	0.100	ND
2H, 2H-全氟癸酸 (H ₂ PFDA/8:2 FTCA),	27854-31-5	-	mg/kg	0.010	ND



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检测项目	CAS No.	限值	Unit (s)	MDL	003
及其盐 [^]					
1H, 1H, 2H, 2H-全氟-1-癸醇 (8:2 FTOH)	678-39-7	-	mg/kg	0.100	ND
1-碘-1H, 1H, 2H, 2H-全氟癸烷 (8:2 FTI)	2043-53-0	-	mg/kg	0.100	ND
1H, 1H, 2H, 2H-全氟癸基三乙氧基硅烷 (8:2 FTSi (OC ₂ H ₅) ₃)	101947-16-4	-	mg/kg	0.100	ND
双 (2- (全氟乙基)磷酸 (8:2diPAP)	678-41-1	-	mg/kg	0.010	ND
2H, 2H, 3H, 3H-全氟癸酸 (H ₄ PFUnDA/ 8:3 FTCA), 及其盐 [^]	34598-33-9	-	mg/kg	0.010	ND
全氟辛基乙烯 (PFDE)	21652-58-4	-	mg/kg	0.100	ND
3-全氟庚基丙酸 (7:3 FTCA)	812-70-4	-	mg/kg	0.010	ND
PFOA相关化合物总和	-	1.0	mg/kg	-	ND
结论					合格

备注:

1. [^]=物质是指附表中列出的盐/衍生物。

物质名称	CAS No.
PFOS, 及其盐&衍生物	
全氟辛烷磺酸 (PFOS)	1763-23-1
全氟辛基磺酸钾 (PFOS-K)	2795-39-3
全氟辛基磺酸锂 (PFOS-Li)	29457-72-5
全氟辛基磺酸钠 (PFOS-Na)	4021-47-0
全氟辛基磺酸铵 (PFOS-NH ₄)	29081-56-9
全氟辛基磺酸二乙醇铵 (PFOS-NH ₂ (C ₂ H ₄ OH) ₂)	70225-14-8
全氟辛基磺酸四乙基铵 (PFOS-N (C ₂ H ₅) ₄)	56773-42-3
全氟辛基磺酸二癸二甲基铵 (PFOS-N (C ₁₀ H ₂₁) ₂ (CH ₃) ₂)	251099-16-8
全氟辛基磺酰氟 (PFOS-F)	307-35-7
双[十七氟辛烷磺酸]镁 (POSF-Mg)	91036-71-4
全氟辛烷磺酸哌啶	71463-74-6
PFOSA, 及其盐	
全氟辛基磺酰胺 (PFOSA)	754-91-6
全氟辛基磺酰胺锂盐 (1:1) (PFOSA-Li)	76752-79-9
PFOA, 及其盐&衍生物	
全氟辛酸 (PFOA)	335-67-1
全氟辛酸钠 (PFOA-Na)	335-95-5
全氟辛酸钾 (PFOA-K)	2395-00-8
全氟辛酸银 (PFOA-Ag)	335-93-3
全氟辛酰氟 (PFOA-F)	335-66-0
全氟辛酸铵 (APFO)	3825-26-1
全氟辛酸锂 (PFOA-Li)	17125-58-5



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8:2 FTS, 及其盐	
1H,1H,2H,2H-全氟癸烷磺酸 (8:2 FTS)	39108-34-4
1H,1H,2H,2H-全氟癸烷磺酸钾 (8:2 FTS-K)	438237-73-1
1H,1H,2H,2H-全氟癸烷磺酸铵 (8:2 FTS-NH ₄)	149724-40-3
1H,1H,2H,2H-全氟癸烷磺酸钠 (8:2 FTS-Na)	27619-96-1
H₂PFDA/8:2 FTCA, 及其盐	
2H,2H-全氟癸酸 (H ₂ PFDA/8:2 FTCA)	27854-31-5
四丁基磷 2H,2H-全氟癸酸酯 (8:2 FTCA-P (C ₄ H ₉) ₄)	882489-14-7
8:2diPAP, 及其盐	
双 (2- (全氟乙基))磷酸 (8:2diPAP)	678-41-1
双 (2- (全氟乙基))磷酸钠 (8:2diPAP-Na)	114519-85-6
H₄PFUnDA/ 8:3 FTCA, 及其盐	
2H,2H,3H,3H-全氟癸酸 (H ₄ PFUnDA/ 8:3 FTCA)	34598-33-9
2H,2H,3H,3H-全氟十一烷酸钾 (H ₄ PFUnDA-K)	83310-58-1

欧盟POPs法规 (EU) 2019/1021 附录I及其修正法规(EU) 2023/1608-全氟己烷磺酸(PFHxS)及其盐和相关化合物

检测方法: 优化的CEN/TS 15968:2010, 采用LC-MS 或 LC-MS/MS和GC-MS进行分析。

检测项目	CAS No.	限值	单位	MDL	003
PFHxS及其盐					
全氟己基磺酸 (PFHxS), 及其盐 [^]	355-46-4	0.025	mg/kg	0.010	ND
PFHxS相关化合物					
N-甲基全氟-1-己磺酰胺 (N-Me-PFHxSA)	68259-15-4	1	mg/kg	0.010	ND
全氟己烷磺酰胺 (PFHxSA)	41997-13-1	1	mg/kg	0.010	ND
N-[3-(二甲基氨基)丙基]十三氟己烷磺酰胺(N-AP-FHxSA)	50598-28-2	1	mg/kg	0.010	ND
2-[甲基[(十三氟己基)磺酰基]氨基]乙基丙烯酸酯 (N-MeFHSEA)	67584-57-0	1	mg/kg	0.500	ND
2-[甲基[(十三氟己基)磺酰基]氨基]乙基甲基丙烯酸酯	67584-61-6	1	mg/kg	0.100	ND
2-[乙基[(十三氟己基)磺酰基]氨基]乙基甲基丙烯酸酯	67906-70-1	1	mg/kg	0.100	ND
十三氟-N-(2-羟基乙基)-N-甲基己烷磺酰胺 (MeFHxSE)	68555-75-9	1	mg/kg	0.010	ND
N-乙基-N-[(十三氟己基)磺酰基]甘氨酸	68957-32-4	1	mg/kg	0.010	ND
PFHxS相关化合物总和	-	1	mg/kg	-	ND
结论					合格



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备注:

(1)2023年8月8日, 欧盟委员会于欧盟官方公报发布(EU)2023/1608法规, 修订了2023年5月30日发布的法规(EU)2019/1021附件I中关于全氟己烷磺酸(PFHxS)、其盐和PFHxS相关化合物清单。

物质	范围	中间用途或其他规范的特殊豁免	生效日期
PFHxS 及其盐	物质或混合物, 物品	≤ 0.025 mg/kg	2023.8.28
PFHxS相关物质	物质或混合物, 物品	≤ 1 mg/kg (单项或PFHxS相关物质总和)	2023.8.28
PFHxS 及其盐和PFHxS相关化合物	浓缩消防泡沫混合物	≤ 0.1 mg/kg (3年内进行审查以降低限值)	2023.8.28

(2)本报告中检测的全氟己烷磺酸(PFHxS)及其盐类和PFHxS相关化合物参考欧洲化学品管理局的“持久性有机污染物官方清单”, 请通过以下网络链接查找更多信息:

<https://echa.europa.eu/list-of-substances-proposed-as-pops>

(3) ^=物质是指下表列出的盐/衍生物

PFHxS及其盐 和衍生物	CAS No.
全氟己基磺酸 (PFHxS)	355-46-4
全氟己基磺酸钠(PFHxS-Na)	82382-12-5
全氟己基磺酸钾(PFHxS-K)	3871-99-6
全氟己基磺酸锂(PFHxS-Li)	55120-77-9
全氟己基磺酸铵(PFHxS-NH ₄)	68259-08-5
全氟己基磺酸三苯基(苯基甲基)-磷鎓盐 (PFHxS-BTPP)	1000597-52-3
N,N,N-三丁基丁烷-1-胺全氟己基磺酸盐(PFHxS-N(C ₄ H ₉) ₄)	108427-54-9
N,N,N-三乙基乙胺全氟己基磺酸盐(PFHxS-N(C ₂ H ₅) ₄)	108427-55-0
全氟己基磺酸与四氢吡咯络合物(PFHxS-NC ₄ H ₉)	1187817-57-7
全氟-1-己基磺酸-N-[4-[[4-(二乙基氨基)苯基][4-(乙基氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-乙基-乙铵盐(PFHxS-(NC ₁₀ H ₁₄) ₃ C ₅ H ₄)	1310480-24-0
全氟-1-己基磺酸-N-[4-[[4-(二甲基氨基)苯基][4-(乙基氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-甲基-甲基铵盐(PFHxS-(NC ₈ H ₁₀) ₂ C ₁₃ H ₁₂)	1310480-27-3
全氟-1-己基磺酸-N-[4-[[4-(二甲基氨基)苯基][4-(苯基氨基)-1-萘基]亚甲基]-2,5-环己二烯-1-亚基]-N-甲基-甲基铵盐(PFHxS-(NC ₈ H ₁₀) ₂ C ₁₇ H ₁₂)	1310480-28-4
全氟己基磺酸与β-环糊精络合物(PFHxS-C ₄₂ H ₇₀ O ₃₅)	1329995-45-0
全氟己基磺酸与γ-环糊精络合物(PFHxS-C ₄₈ H ₈₀ O ₄₀)	1329995-69-8
全氟己基磺酸三苯基硫鎓盐(TPS-PFHxS)	144116-10-9
全氟己基磺酸喹啉, 1-(羧甲基)-4-[2-[4-[4-(2,2-二苯基噻吩基)苯基]-1,2,3a,4,8b-六氢环戊并[b]呋啉-7-基]乙烯基]盐 (PFHxS-C ₄₄ H ₃₇ N ₂ O ₂)	1462414-59-0
全氟己基磺酸二苯基碘鎓盐(PFHxS-I(C ₆ H ₅) ₂)	153443-35-7
N,N,N-三甲基-全氟己基磺酸甲基铵盐 (PFHxS-TMA)	189274-31-5
全氟己基磺酸与2-甲基-2-丙胺络合物 (PFHxS-NH ₂ (CH ₃) ₃)	202189-84-2
全氟己基磺酸双[4-(1,1-二甲基乙基)苯基]碘鎓盐	213740-81-9



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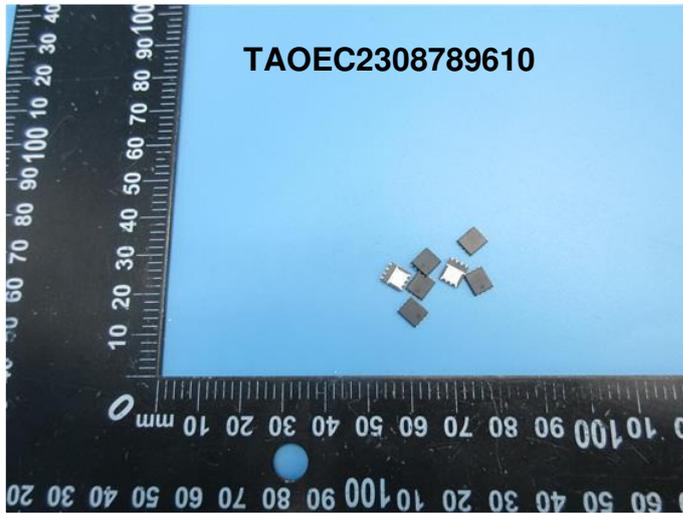
(PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)	
全氟己基磺酸双(4-甲基苯基)苯基硫鎓盐(PFHxS-S(C ₇ H ₇) ₂ C ₆ H ₅)	341548-85-4
全氟己基磺酸(硫代二-4,1-亚苯基)双[二苯基]硫鎓盐 (1:2) (PFHxS-S3(C ₆ H ₅) ₄ (C ₆ H ₄) ₂)	421555-73-9
全氟己基磺酸镓 (3:1) (PFHxS-Ga)	341035-71-0
全氟己基磺酸钪 (3:1) (PFHxS-Sc)	350836-93-0
全氟己基磺酸钕 (3:1) (PFHxS-Nd)	41184-65-0
全氟己基磺酸钇(3:1) (PFHxS-Y)	41242-12-0
全氟己基磺酸铯(PFHxS-Cs)	92011-17-1
全氟己基磺酸锌(PFHxS-Zn)	70136-72-0
全氟己基磺酸双[4-(1,1-二甲基丙基)苯基]碘鎓盐 (1:1)(PFHxS-I(C ₆ H ₄) ₂ (C ₅ H ₁₁) ₂)	421555-74-0
全氟己基磺酸三[4-(1,1-二甲基乙基)苯基]硫鎓盐 (PFHxS-S(C ₆ H ₄) ₃ (C ₄ H ₉) ₃)	425670-70-8
全氟己基磺酸与2,2'-亚氨基二乙醇络合物 (1:1)(PFHxS-NH(C ₂ H ₅ O) ₂)	70225-16-0
全氟己基磺酸与三乙胺络合物(PFHxS-N(C ₂ H ₅) ₃)	72033-41-1
全氟己基磺酸双[(1,1-二甲基乙基)苯基]碘鎓盐 (1:1)(PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)	866621-50-3
全氟己基磺酸(4-甲基苯基)二苯硫鎓盐(PFHxS-S(C ₆ H ₅) ₂ C ₇ H ₇)	910606-39-2
全氟己基磺酸[4-[(2-甲基-1-氧代-2-丙烯酰)氧基]苯基]二苯基硫鎓盐 (PFHxS-S(C ₆ H ₅) ₂ C ₁₀ H ₉ O ₂)	911027-68-4
二苯并[k, n][1,4,7,13]四氧杂硫环戊二烯, 19-[4-(1,1-二甲基乙基)苯基]-6,7,9,10,12,13-六氢-, 全氟己基磺酸盐 (1:1)(PFHxS-SC ₂ H ₃ 1O ₄)	928049-42-7
全氟己基磺酰氟 (PFHxS-F)	423-50-7
全氟己基磺酰氯 (PFHxS-Cl)	55591-23-6
[4-[(2-甲基-1-氧代-2-丙烯基)氧基]苯基]二苯基铈与 1,1,2,2,3,3,4,4,5,5,6,6,6-三氟-1-己烷磺酸(1:1)的盐与2-乙基三环 [3.3.1.1 ^{3,7}]癸-2-基 2-甲基-2-丙烯酸酯、3-羟基三环[3.3.1.1 ^{3,7}]癸-1- 基 2-甲基-2-丙烯酸酯和四氢-2-氧代-3-咪喃基 2-甲基-2-丙烯酸酯的聚 合物(PFHxS-磺酸酯聚合物)	911027-69-5

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