

## 测试报告

No. SHAEC2118361420

日期: 2021年09月10日 第1页,共11页

苏州固得电子股份有限公司  
中国江苏苏州市通安开发区通锡路31号

以下测试之样品是由申请者所提供及确认: ASMA GPP 无卤产品

SGS工作编号: SP21-026971 - SUZ  
型号: ASMA GPP  
客户参考信息: ASMA MSMA ASMB ASMC MSMC SMA SMB SMC GPP/TVS 无卤产品  
主要成分: 铜,锡,环氧  
样品接收日期: 2021年08月26日  
测试周期: 2021年08月26日 - 2021年09月09日  
测试要求: 根据客户要求测试  
测试方法: 请参见下一页  
测试结果: 请参见下一页

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Carol Luo 罗萍  
批准签署人

scan to see the report



SHAEC2118361420



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测试结果:

测试样品描述:

样品编号	SGS样品ID	描述
SN1	SHA21-183614.026	黑色本体带银色引脚 (混测*)

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

### RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863

测试方法: 参考IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015和IEC 62321-8:2017, 采用ICP-OES, UV-Vis和GC-MS进行分析。

测试项目	限值	单位	MDL	026
镉(Cd)	100	mg/kg	2	ND
铅(Pb)	1000	mg/kg	2	13417▲
汞(Hg)	1000	mg/kg	2	ND
六价铬 (Cr(VI))	1000	mg/kg	8	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND
一溴联苯	-	mg/kg	5	ND
二溴联苯	-	mg/kg	5	ND
三溴联苯	-	mg/kg	5	ND
四溴联苯	-	mg/kg	5	ND
五溴联苯	-	mg/kg	5	ND
六溴联苯	-	mg/kg	5	ND
七溴联苯	-	mg/kg	5	ND
八溴联苯	-	mg/kg	5	ND
九溴联苯	-	mg/kg	5	ND
十溴联苯	-	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND
一溴二苯醚	-	mg/kg	5	ND
二溴二苯醚	-	mg/kg	5	ND
三溴二苯醚	-	mg/kg	5	ND
四溴二苯醚	-	mg/kg	5	ND



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日期: 2021年09月10日 第3页,共11页

测试项目	限值	单位	MDL	026
五溴二苯醚	-	mg/kg	5	ND
六溴二苯醚	-	mg/kg	5	ND
七溴二苯醚	-	mg/kg	5	ND
八溴二苯醚	-	mg/kg	5	ND
九溴二苯醚	-	mg/kg	5	ND
十溴二苯醚	-	mg/kg	5	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND
邻苯二甲酸丁苄酯(BBP)	1000	mg/kg	50	ND
邻苯二甲酸二(2-乙基己基)酯(DEHP)	1000	mg/kg	50	ND
邻苯二甲酸二异丁酯(DIBP)	1000	mg/kg	50	ND

备注:

(1) 最大允许极限值引用自RoHS指令(EU) 2015/863。

IEC 62321系列等同于 EN 62321系列

[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)

(2) 2021年7月22号开始, DEHP, BBP, DBP 和 DIBP的限制适用于医疗器械, 包括体外医疗器械, 监控仪表, 包括工业监测和控制仪器。

(3)▲根据客户提供的声明, 编号026中的铅(Pb)被欧盟RoHS指令2011/65/EU豁免, 相应豁免条文(请以英文原文为准) [ANNEX III 7(a)]: 高熔点型焊料中的铅(如铅含量等于或大于85%的铅基合金焊料)。

(4)▲根据客户提供的声明, 编号026中的铅(Pb)被欧盟RoHS指令2011/65/EU豁免, 相应豁免条文(请以英文原文为准) [ANNEX III 7(c)-II]: 电子电气元件中玻璃或陶瓷材料(电容中陶瓷介质除外)所含的铅, 如压电设备、玻璃或陶瓷基复合元件。

## 卤素

测试方法: 参照EN 14582: 2016方法测定, 采用IC进行分析。

测试项目	单位	MDL	026
氟 (F)	mg/kg	50	ND
氯 (Cl)	mg/kg	50	ND
溴 (Br)	mg/kg	50	ND
碘 (I)	mg/kg	50	ND

## 全氟辛烷磺酸及其衍生物(PFOS)和全氟辛酸(PFOA)及其盐

测试方法: 参考 CEN/TS 15968: 2010方法, 采用HPLC-MS进行分析。



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测试项目	CAS NO.	单位	MDL	026
全氟辛烷磺酸 (PFOS) ^	1763-23-1	mg/kg	10	ND
全氟辛酸 (PFOA) 及其盐+	-	mg/kg	10	ND

### 备注:

- (1) ^ 全氟辛烷磺酸 (PFOS) 包含 PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH4 (CAS No.: 29081-56-9), PFOS-NH(OH)2 (CAS No.: 70225-14-8), PFOS-N(C2H5)4 (CAS No.: 56773-42-3), PFOS-DDA (CAS No.: 251099-16-8) 和 POSF (CAS No.: 307-35-7)
- (2) PFOA 及其盐+是指其酸/盐, 包括全氟辛酸(CAS No.: 335-67-1), 全氟辛酸钠 (CAS No.: 335-95-5), 全氟辛酸钾 (CAS No.: 2395-00-8), 全氟辛酸银 (CAS No.: 335-93-3), 全氟辛酰氟 (CAS No.: 335-66-0) 和 全氟辛酸铵 (CAS No.: 3825-26-1)。

\*样品基于申请人要求为混合测试。报告中的混合测试结果不代表其中个别单一材质的含量, 该测试数据仅供参考。

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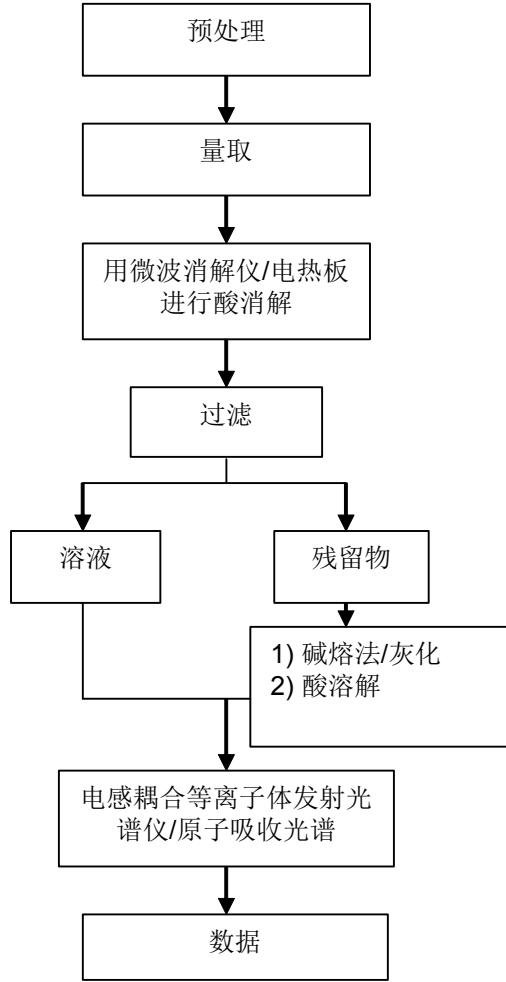
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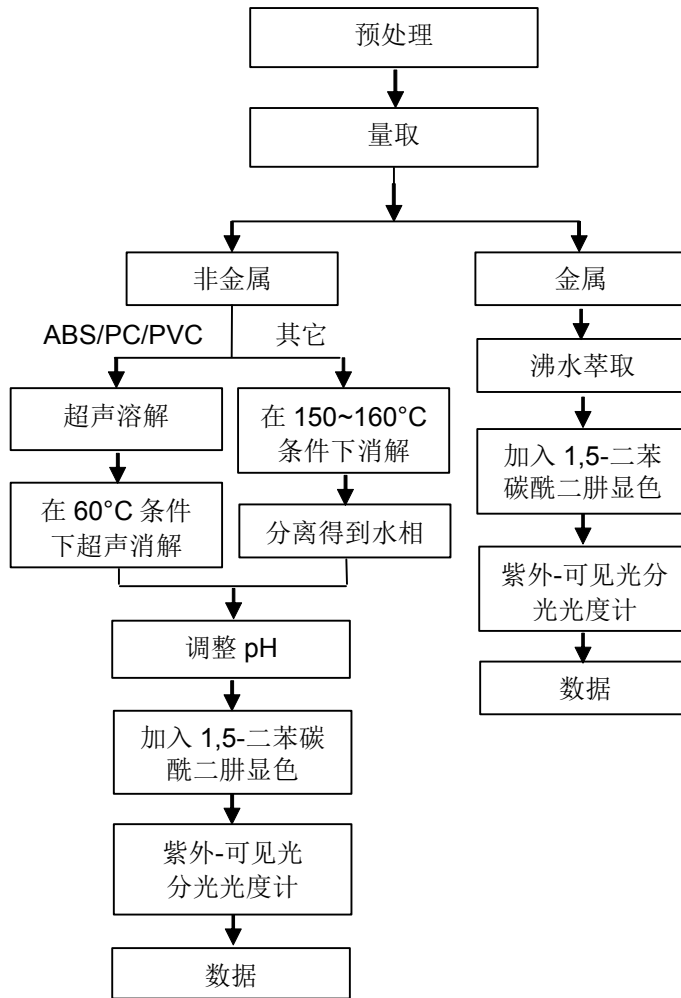
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## 元素(IEC62321) 测试流程图

1)样品按照下述流程被完全消解



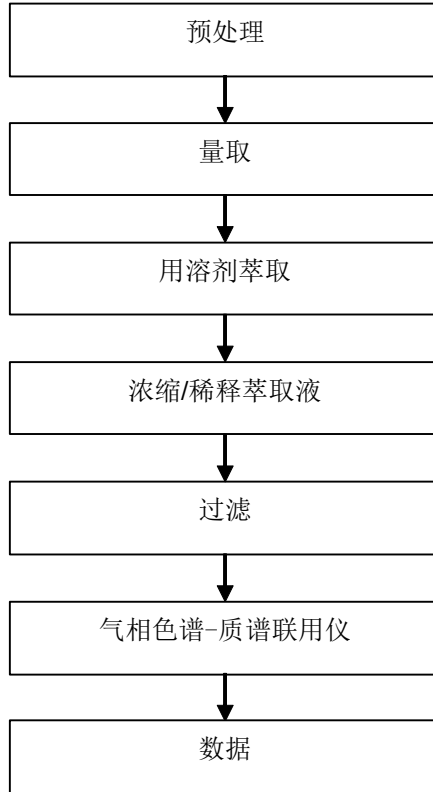
## 六价铬测试流程图



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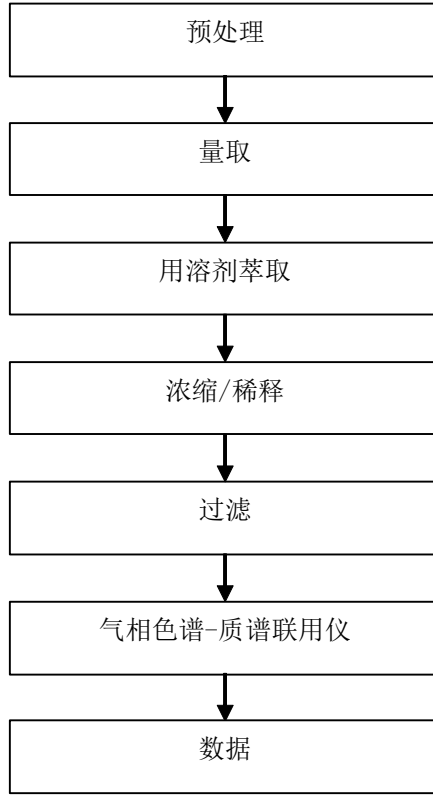
## PBBs/PBDEs 测试流程图



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## Phthalates 测试流程图

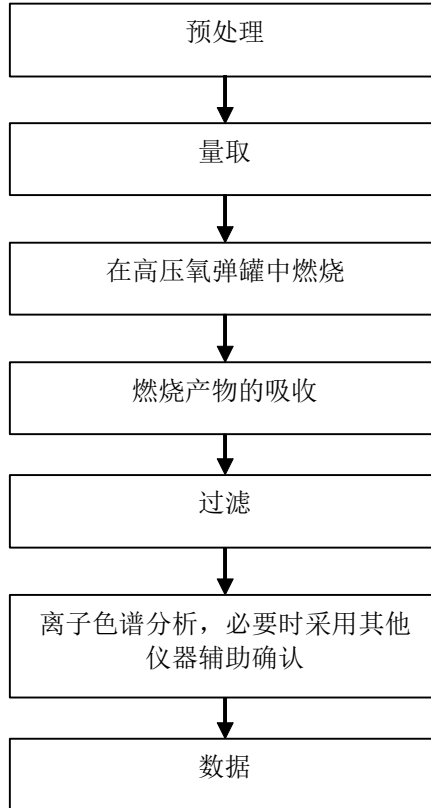


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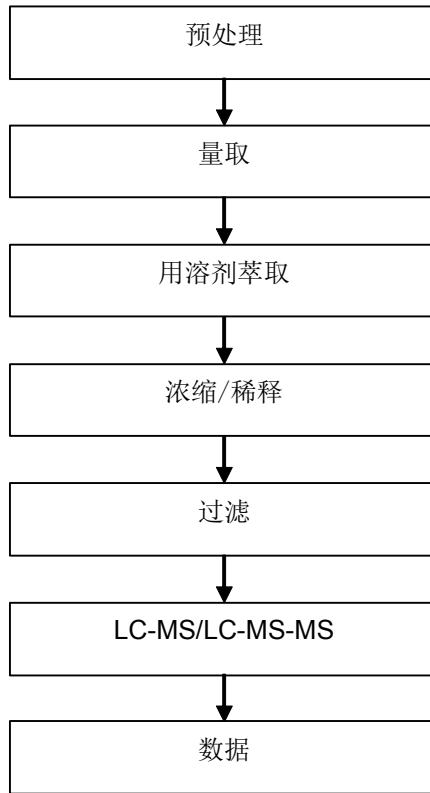
## Halogen(氧弹法)测试流程图



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### PFASs/ PFOS/PFOA 测试流程图



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