

## 测试报告

No. SHAEC1500491006

日期: 2015年01月14日 第1页,共11页

金安国纪科技股份有限公司/上海国纪电子有限公司/国际层压板材有限公司/金安国纪科技(珠海)有限公司/金安国纪科技(杭州)有限公司

上海市松江区工业园区宝胜路33号

以下测试之样品是由申请者所提供及确认: 环氧玻纤布板(普通FR-4)

SGS工作编号: SP15-000745 - SH

样品接收日期: 2015年01月09日

测试周期: 2015年01月09日 - 2015年01月13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

结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求。

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授权签名

Marry Ma 马广媛  
批准签署人

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## 测试报告

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日期: 2015年01月14日 第2页,共11页

测试结果:

### 测试样品描述:

样品编号	SGS样品ID	描述
SN1	SHA15-004910.003	浅绿色固体片
SN2	SHA15-004910.008	浅绿色固体片

备注:

- (1) 1 mg/kg = 1 ppm = 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

- 测试方法:
- (1) 参考IEC 62321-5:2013, 用ICP-OES测定镉的含量
  - (2) 参考IEC 62321-5:2013, 用ICP-OES测定铅的含量
  - (3) 参考IEC 62321-4:2013, 用ICP-OES测定汞的含量
  - (4) 参考IEC 62321:2008, 用紫外-可见分光光度计比色法测定六价铬的含量
  - (5) 参考IEC 62321:2008, 用GC-MS测定PBBs(多溴联苯)和PBDEs(多溴二苯醚)的含量

测试项目	限值	单位	MDL	008
镉(Cd)	100	mg/kg	2	ND
铅(Pb)	1000	mg/kg	2	9
汞(Hg)	1000	mg/kg	2	ND
六价铬(CrVI)	1000	mg/kg	2	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



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## 测试报告

No. SHAEC1500491006

日期: 2015年01月14日 第3页,共11页

测试项目	限值	单位	MDL	008
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
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

备注:

(1) 最大允许极限值引用自指令2011/65/EU附录II.

### 邻苯二甲酸盐(或酯)

测试方法: 参考EN 14372: 2004的方法, 采用GC-MS分析邻苯二甲酸盐(或酯)含量.

测试项目	CAS NO.	单位	MDL	003	008
邻苯二甲酸二异壬酯 (DINP)	28553-12-0/ 68515-48-0	%	0.01	ND	
邻苯二甲酸二正辛酯 (DNOP)	117-84-0	%	0.003	ND	
邻苯二甲酸二异癸酯 (DIDP)	26761-40-0/ 68515-49-1	%	0.01	ND	
邻苯二甲酸二正己酯(DnHP)	84-75-3	%	0.003	ND	
邻苯二甲酸二异丁酯(DIBP)	84-69-5	%	0.003	ND	
邻苯二甲酸二丁酯(DBP)	84-74-2	%	0.003		ND
邻苯二甲酸丁苄酯 (BBP)	85-68-7	%	0.003		ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	117-81-7	%	0.003		ND

备注:

(1) 参考信息: RoHS指令2002/95/EC的重订指令2011/65/EU:

邻苯二甲酸二(2-乙基己基)酯(DEHP), 邻苯二甲酸丁苄酯 (BBP)和邻苯二甲酸二丁酯(DBP) 被列为需优先进行风险评估和考虑进行限制的物质.



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## 测试报告

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日期: 2015年01月14日 第4页,共11页

### 石棉

测试方法: 参照NIOSH 9002:1994, 用偏光显微镜定性测定石棉.

测试项目	CAS NO.	单位	MDL	003
阳起石	77536-66-4	%	0.1	阴性
铁石棉	12172-73-5	%	0.1	阴性
直闪石	77536-67-5	%	0.1	阴性
温石棉	12001-29-5 132207-32-0	%	0.1	阴性
青石棉	12001-28-4	%	0.1	阴性
透闪石	77536-68-6	%	0.1	阴性

备注:

(1) 阴性=未检出石棉, 阳性=检出石棉

### 六溴环十二烷(HBCDD)

测试方法: 参考IEC 62321:2008, 采用GC-MS分析六溴环十二烷含量.

测试项目	单位	MDL	003
六溴环十二烷(HBCDD)	mg/kg	10	ND

备注:

(1) 参考信息: RoHS指令2002/95/EC的重订指令2011/65/EU:  
六溴环十二烷(HBCDD) 被列为需优先进行风险评估和考虑进行限制的物质.

### 全氟辛烷磺酰基化合物(PFOS)和全氟辛酸(PFOA)

测试方法: 参照US EPA 3550C: 2007 方法测定, 采用HPLC-MS进行分析.

测试项目	限值	单位	MDL	003
全氟辛烷磺酰基化合物 (PFOS)- 酸,金属盐和酰胺	1000	mg/kg	10	ND
全氟辛酸 (PFOA)	-	mg/kg	10	ND

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备注: 样品008: 此报告数据来源于报告SHA14-250256.003



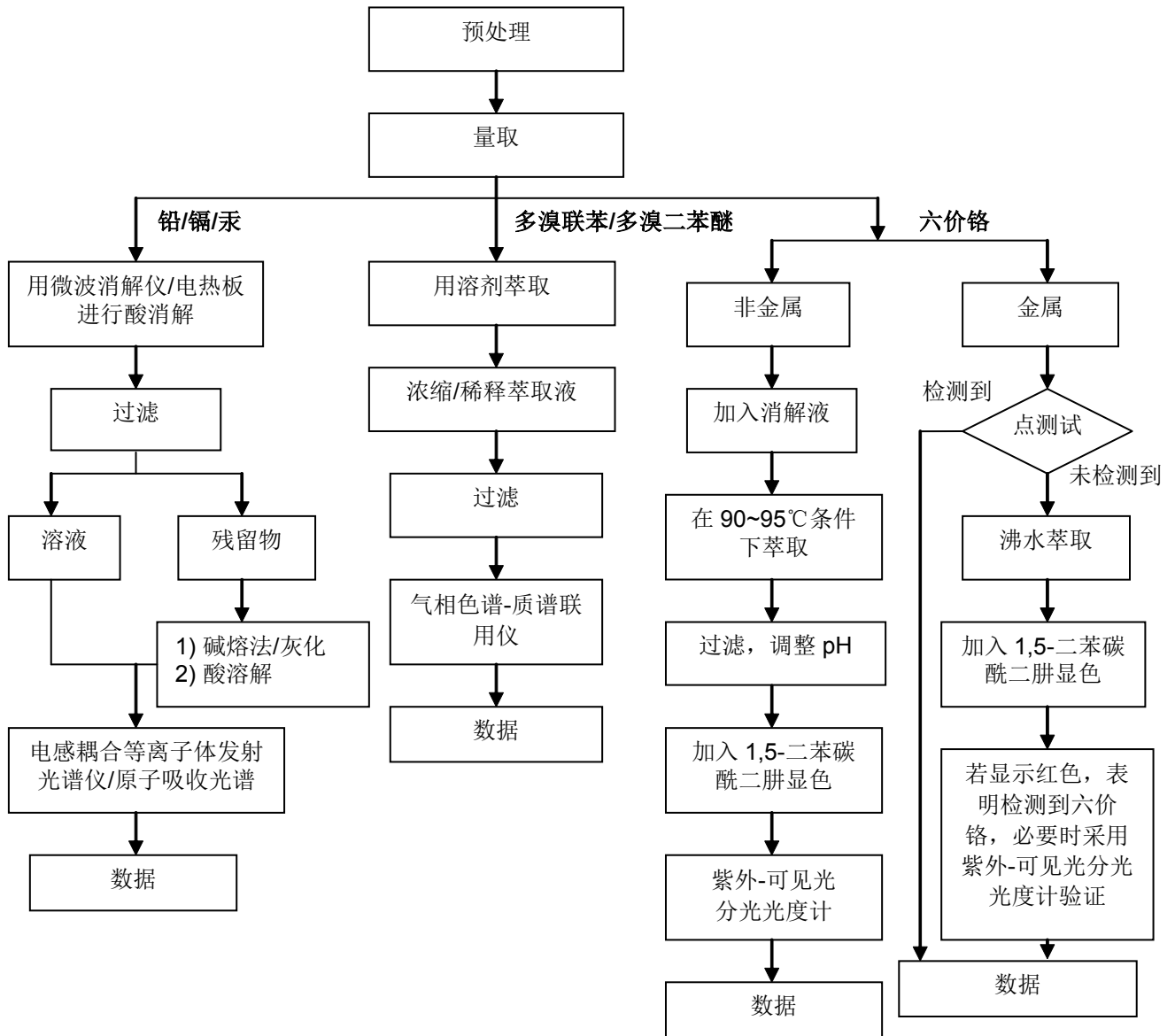
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附件

## RoHS 测试流程图

- 1) 分析人员: 张小波/徐刚/陈怀磊/秦兴章
- 2) 项目负责人: 施青/金黎霞/黄婷
- 3) 样品按照下述流程被完全消解(六价铬和多溴联苯/多溴二苯醚测试除外)。

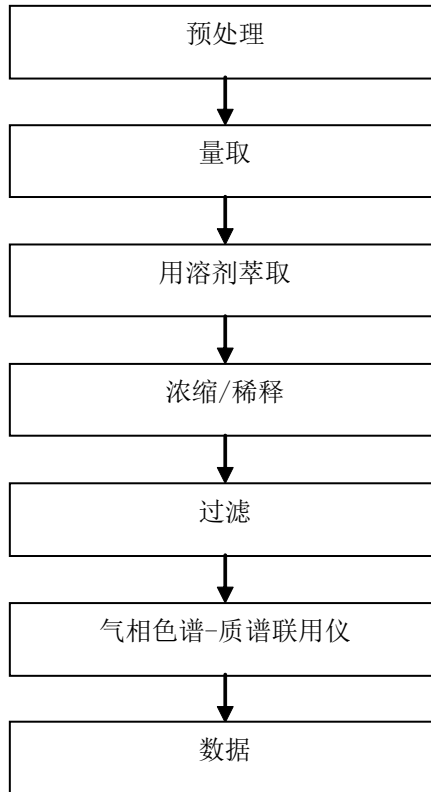


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## Phthalates 测试流程图

- 1) 分析人员: 高仰景
- 2) 项目负责人: 马永存



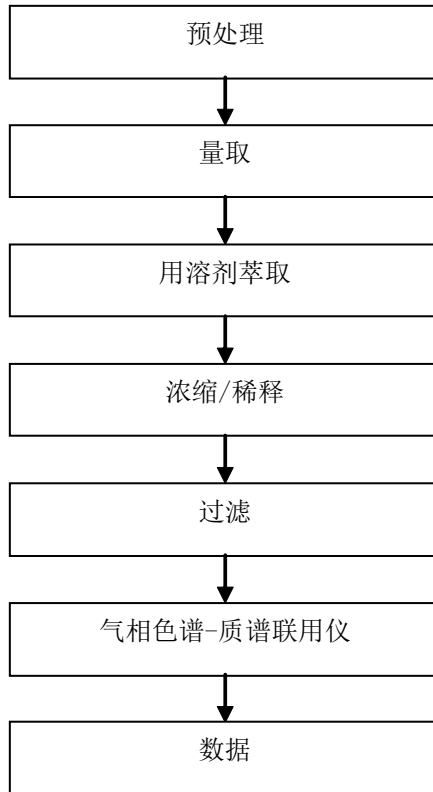
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### HBCDD 测试流程图

- 1) 分析人员: 徐刚
- 2) 项目负责人: 黄婷



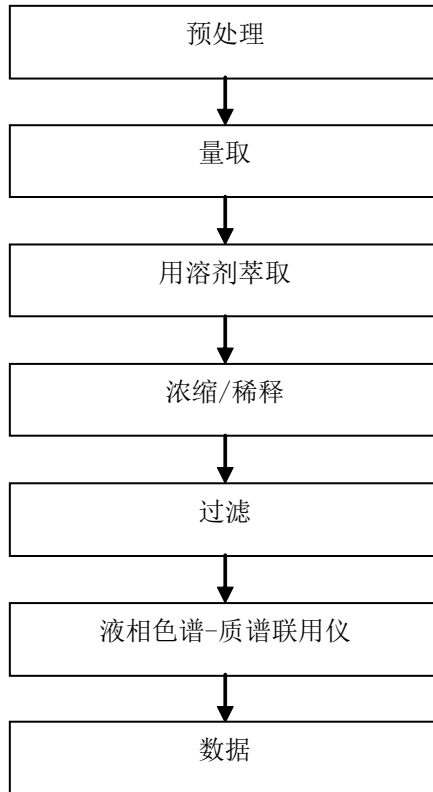
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## PFOS/PFOA 测试流程图

- 1) 分析人员: 杨占君
- 2) 项目负责人: 马永存



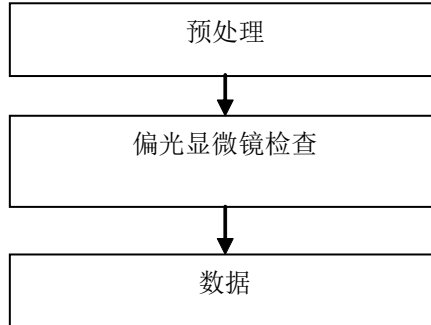
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### Asbestos 测试流程图

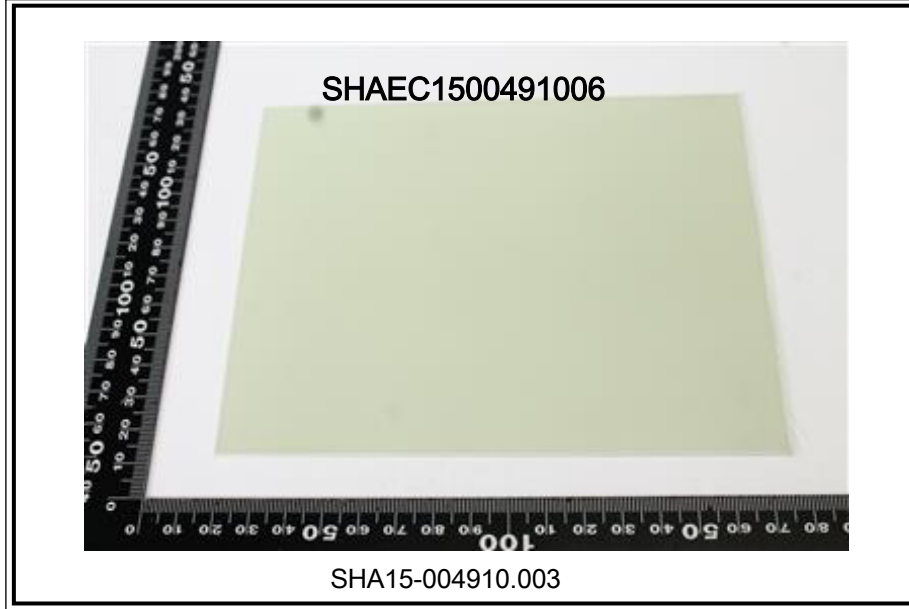
- 1) 分析人员: 黄慧丽
- 2) 项目负责人: 余锦晖



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