

## 测试报告

No. SHAEC1101620902

日期: 2011年02月24日 第1页,共12页

山东太阳纸业股份有限公司  
中国山东省兖州市友谊路1号

以下测试之样品是由申请者所提供及确认: 胶版印刷纸

SGS工作编号: SP11-002812 - SH  
成分: 商品木浆、碳酸钙  
样品接收日期: 2011年02月17日  
测试周期: 2011年02月17日 - 2011年02月23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, 测试结果与欧盟RoHS指令2002/95/EC以及后续修正指令的要求相符

送检之样品的总铅, 总汞的含量符合加拿大涂层材料法规SOR/2005-109及其修正案SOR/2010-224中的限量要求。  
按检测要求, 委托样品遵从欧洲标准 EN71 Part 3:1994+ A1:2000+ AC:2002 的要求。  
送检之样品的铅和重金属含量符合美国材料试验学会(ASTM F 963-08) 要求规格。  
委托样品的富马酸二甲酯(DMF)含量符合欧盟指令2009/251/EC中的要求。

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授权签名



Fan Jingjie, JJ 范晶捷  
批准签署人

本报告是发布日期为2011年02月24日编号为SHAEC1101620901 英文检测报告的中文译本。如有异议, 以英文版本为准。

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日期: 2011年02月24日 第2页,共12页

测试结果:

样品部件外观描述:

样品编号	SGS样品ID	描述
1	SHA11-016209.001	白色纸

备注:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = 检测极限值
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

### RoHS指令2002/95/EC

测试方法: 参照IEC 62321:2008:

- (1) 用ICP-OES测定镉的含量.
- (2) 用ICP-OES测定铅的含量.
- (3) 用ICP-OES测定汞的含量.
- (4) 用紫外-可见分光光度计比色法测定六价铬的含量.
- (5) 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	001
镉(Cd)	100	mg/kg	2	ND
铅(Pb)	1,000	mg/kg	2	ND
汞(Hg)	1,000	mg/kg	2	ND
六价铬(CrVI)	1,000	mg/kg	2	ND
多溴联苯之和(PBBs)	1,000	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)	1,000	mg/kg	-	ND
一溴二苯醚	-	mg/kg	5	ND

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日期: 2011年02月24日

第3页,共12页

测试项目	限值	单位	MDL	001
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2002/95/EC RoHS指令和后继修正指令2005/618/EC.

### 加拿大危险品法案时间表1第1部分第9条款及其修正案SOR/2010-225- 表面涂层材料中的总铅,总汞和可溶性重金属

测试方法: 参照加拿大健康安全实验室手册5-实验室方针和流程, B部分: 测试方法部分, 方法C-02.2(总铅和总汞)和方法C-03(可溶性5项重金属), 采用ICP-OES (总铅和可溶性5项重金属)和测汞仪进行分析.

测试项目	限值	单位	MDL	001
总铅 (Pb)	0.009	%	0.002	ND
总汞 (Hg)	◇	%	0.0001	ND
可溶性锑 (Sb)	0.1	%	0.005	ND
可溶性砷 (As)	0.1	%	0.005	ND
可溶性钡 (Ba)	0.1	%	0.005	ND
可溶性镉 (Cd)	0.1	%	0.005	ND
可溶性硒 (Se)	0.1	%	0.005	ND

备注:

◇任何汞化合物均不能存在.

### 卤素

测试方法: 参照EN 14582:2007方法测定, 采用IC进行分析.

测试项目	单位	MDL	001
氟(F)	mg/kg	50	ND
氯(Cl)	mg/kg	50	112
溴(Br)	mg/kg	50	ND
碘(I)	mg/kg	50	ND

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**可萃取甲醛**

测试方法: 参照 EN 645:1993 (冷水萃取)方法测定, 采用UV-Vis进行分析.

测试项目	单位	MDL	001
甲醛	mg/kg	5	ND

**EN 71 Part3:1994 + A1:2000+ AC:2002—几种元素的转移**

测试方法: 参照EN 71 Part 3:1994+ A1:2000 + AC:2002 方法测定, 采用ICP- OES进行分析.

测试项目	限值	单位	MDL	001
可溶性铅 (Pb)	90	mg/kg	5	ND
可溶性锑 (Sb)	60	mg/kg	5	ND
可溶性砷 (As)	25	mg/kg	5	ND
可溶性钡 (Ba)	1,000	mg/kg	10	ND
可溶性镉 (Cd)	75	mg/kg	5	ND
可溶性铬 (Cr)	60	mg/kg	5	ND
可溶性汞 (Hg)	60	mg/kg	5	ND
可溶性硒 (Se)	500	mg/kg	10	ND

备注:

(1) 结果经分析调整.

**ASTM F 963-08-- 重金属分析: 总铅含量 (目录 4.3.5)**

测试方法: 参照CPSC试验方法:CPSC-CH-E1003-09, 采用ICP-OES进行分析.

测试项目	限值	单位	MDL	001
总铅 (Pb)	90	mg/kg	20	ND

**邻苯二甲酸盐(或酯)**

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测试方法: 参照EN 14372: 2004的方法测定, 采用GC-MS进行分析.

测试项目	单位	MDL	001
邻苯二甲酸二丁酯(DBP)	%	0.003	ND
邻苯二甲酸丁酯苄酯(BBP)	%	0.003	ND
邻苯二甲酸二(2-乙基己基) (DEHP)	%	0.003	ND
邻苯二甲酸二异壬酯 (DINP)	%	0.010	ND
邻苯二甲酸二正辛酯 (DNOP)	%	0.003	ND
邻苯二甲酸二异癸酯 (DIDP)	%	0.010	ND

备注:

(1) DBP, BBP, DEHP 参考信息: 1907/2006/EC Reach 附录XVII的修正指令——552/2009/EC 第51条 (前身为2005/84/EC) 的要求:

- i) 不允许DBP, BBP, DEHP 质量浓度高于0.1%的可塑性物料用于玩具和儿童护理品.
- ii) 当玩具和儿童护理品中的可塑性物料含DBP, BBP, DEHP 质量浓度高于0.1%时,不得投放市场. 详细信息请参见Regulation (EC) No 552/2009

DINP, DNOP, DIDP 参考信息: 1907/2006/EC Reach 附录XVII的修正指令——552/2009/EC 第52条 (前身为2005/84/EC) 的要求:

- i) 不允许DINP, DNOP, DIDP 质量浓度高于0.1%的可塑性物料用于可放入儿童口中的玩具和儿童护理品.
- ii) 当可放入儿童口中的玩具和儿童护理品中的可塑性物料含DBP, BBP, DEHP 质量浓度高于0.1%时,不得投放市场.

详细信息请参见Regulation (EC) No 552/2009

**ASTM F 963-08—重金属分析: 可溶性重金属(目录 4.3.5)**

测试方法: 可溶性重金属含量(目录4.3.5)- 根据ASTM F 963-08 (目录8.3)样品用稀盐酸萃取, 采用 ICP-OES进行分析.

测试项目	限值	单位	MDL	001
可溶性铅(Pb)	90	mg/kg	5	ND
可溶性铋(Sb)	60	mg/kg	5	ND
可溶性砷(As)	25	mg/kg	5	ND
可溶性钡(Ba)	1,000	mg/kg	10	ND
可溶性镉(Cd)	75	mg/kg	5	ND
可溶性铬(Cr)	60	mg/kg	5	ND
可溶性汞(Hg)	60	mg/kg	5	ND
可溶性硒(Se)	500	mg/kg	10	ND

备注:

(1) 结果经分析调整.

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**富马酸二甲酯 (DMF)**

测试方法: 以溶剂萃取法测定, 采用GC-MS进行分析.

测试项目	限值	单位	MDL	001
富马酸二甲酯(DMF)	0.1	mg/kg	0.1	ND

备注:

- (1) 最大允许极限值引用自欧盟指令2009/251/EC中的要求.

**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	单位	MDL	001
全氟辛烷磺酰基化合物 (PFOS)- 酸,金属盐和酰胺	mg/kg	10	ND
全氟辛酸 (PFOA)	mg/kg	10	ND

备注:

- (1) PFOS 参考信息: 1907/2006/EC Reach 附录XVII的修正指令——552/2009/EC 第53条 (前身为2006/122/EC)
    - (i) PFOS作为纯物质或者制备原料时,若浓度大于等于0.005%(重量)则不可以投放市场.
    - (ii) PFOS用于半成品、成品或零部件时,若浓度大于等于0.1%(参照明确含有PFOS结构或者微结构部分重量计算)则不可以投放市场; 对于纺织品或其它涂层材料,若PFOS的含量大于或等于1µg /m<sup>2</sup>(相对于涂层部分)则不可以投放市场.
- 详细信息请参见Regulation (EC) No 552/2009

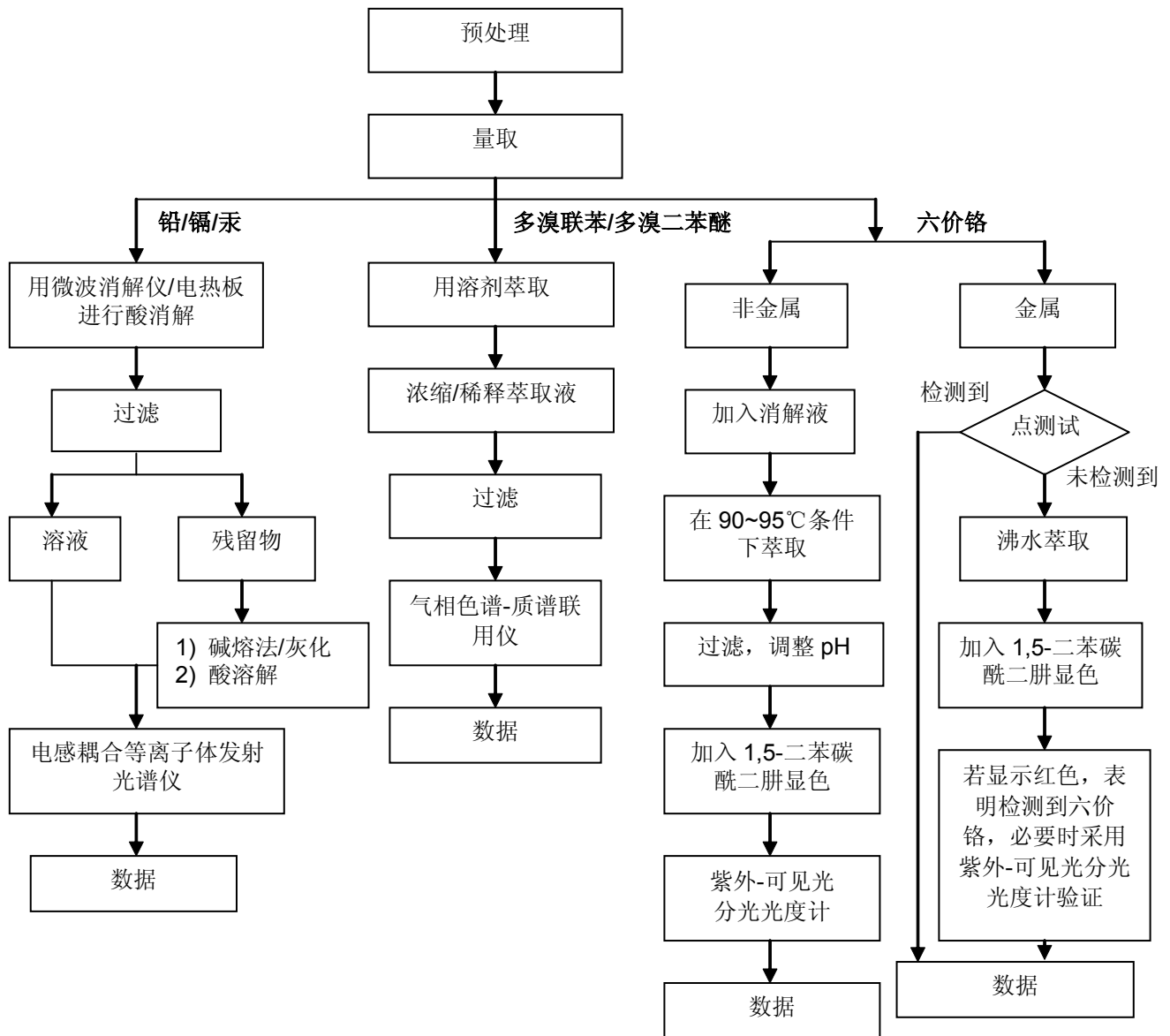
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附件

## RoHS 测试流程图

- 1) 分析人员: 肖飞/魏守良/赵旭东/林以琳
- 2) 项目负责人: 张春华/徐亮/岳林禾
- 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)。

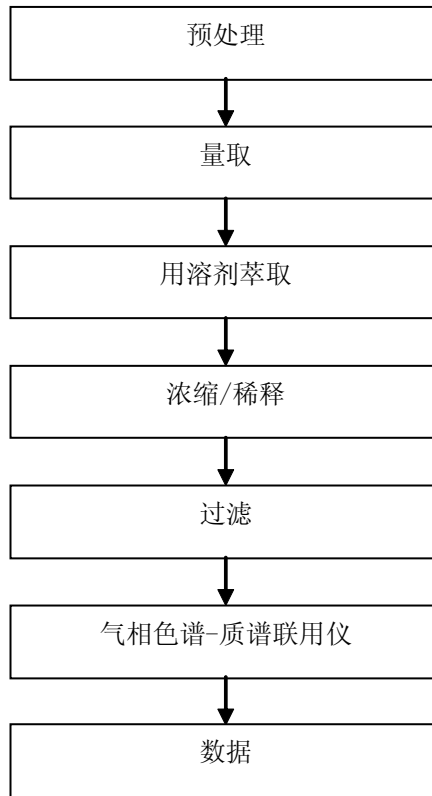


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## Phthalates 测试流程图

- 1) 分析人员: 桂小英
- 2) 项目负责人: 刘娟



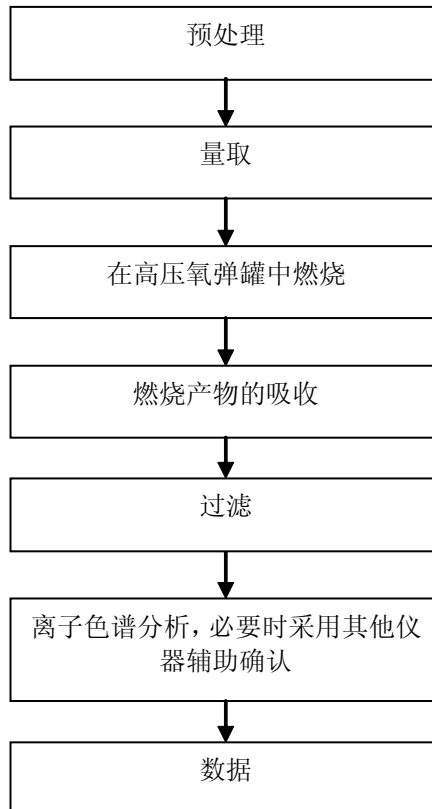
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## Halogen 测试流程图

- 1) 分析人员: 巩东侠
- 2) 项目负责人: 江海飞

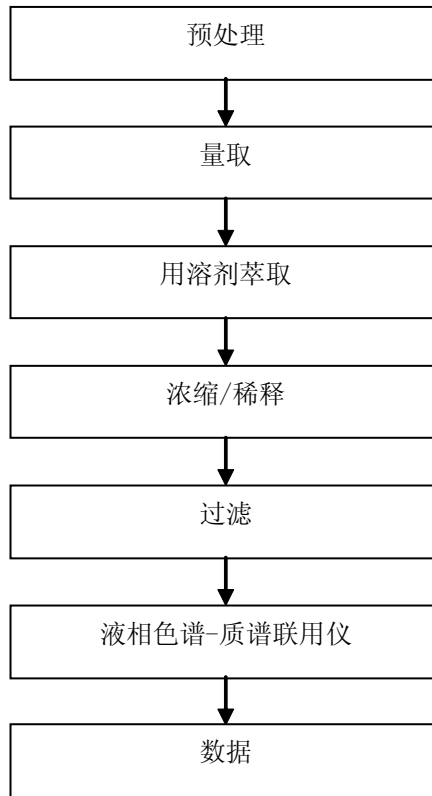


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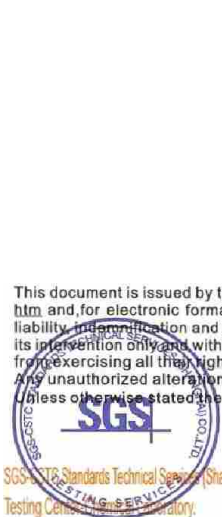


## PFOS/PFOA 测试流程图

- 1) 分析人员: 李晓茹
- 2) 项目负责人: 杜柏桥

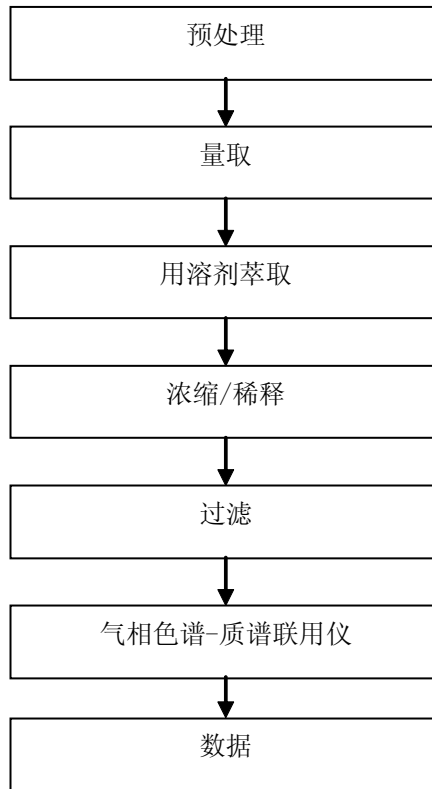


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## DMF(富马酸二甲酯)测试流程图

- 1) 分析人员: 胡娟
- 2) 项目负责人: 岳林禾



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