

测试报告

No. CANML1707314846

日期: 2017年05月09日 第1页,共12页

树盛金属有限公司
高雄县仁武乡竹后村竹业巷6号

以下测试之样品是由申请者所提供及确认: 磷铜板

SGS工作编号: GZIN1704017589PC - GZ
内部编号: GZIN1704017396ML
客户参考信息: C5191
样品接收日期: 2017年04月26日
测试周期: 2017年04月26日 - 2017年05月04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)、邻苯二甲酸酯(如邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁苄酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP))的测试结果符合欧盟RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863的限值要求。

通标标准技术服务有限公司广州分公司
授权签名

Zm guan关正孟
批准签署人

备注: 本报告是编号为CANML1707314845报告的中文版本。



测试报告

No. CANML1707314846

日期: 2017年05月09日 第2页,共12页

测试结果:

测试样品描述:

样品编号	SGS样品ID	描述
SN1	CAN17-073148.002	铜色金属片

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2011/65/EU附录II的修正指令(EU) 2015/863

- 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 62321-7-1:2015, 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 62321-6:2015, 用GC-MS测定PBBs(多溴联苯)和PBDEs(多溴二苯醚)的含量。
 - (6)参考IEC 62321-8 :2017, 用GC-MS测定邻苯二甲酸酯的含量。

测试项目	限值	单位	MDL	002
镉 (Cd)	100	mg/kg	2	ND
铅 (Pb)	1,000	mg/kg	2	11
汞 (Hg)	1,000	mg/kg	2	ND
六价铬(Cr(VI))▼	-	µg/cm ²	0.10	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: 2017年05月09日 第3页,共12页

测试项目	限值	单位	MDL	002
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
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

http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(2) ▼=a. 当六价格的浓度高于0.13 µg/cm²时, 样品为阳性, 即含有六价格;

b. 当六价格的浓度为ND(低于0.10 µg/cm²)时, 样品为阴性, 即未检测到六价格;

c. 当六价格的浓度介于0.10 µg/cm²与0.13 µg/cm²之间时, 无法直接判定是否检测到六价格, 因不同个体的样品表面差异可能会影响测定结果;

由于未获知样品的存储条件和生产日期, 样品的六价格测试结果仅能代表测试时样品含六价格的状态。

卤素

测试方法: 参考EN 14582:2016, 用 IC分析。

测试项目	单位	MDL	002
氟 (F)	mg/kg	50	ND
氯 (Cl)	mg/kg	50	ND
溴 (Br)	mg/kg	50	ND
碘 (I)	mg/kg	50	ND

元素分析

测试方法: 参考US EPA方法3050B:1996, 用ICP-OES分析。



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测试项目	单位	MDL	002
铍 (Be)	mg/kg	5	ND

六溴环十二烷(HBCDD)

测试方法: 参考IEC 62321:2008, 用GC-MS分析。

测试项目	单位	MDL	002
六溴环十二烷(HBCDD)	mg/kg	10	ND

邻苯二甲酸盐(或酯)

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

测试项目	CAS NO.	单位	MDL	002
邻苯二甲酸二丁酯 (DBP)	84-74-2	%(w/w)	0.003	ND
邻苯二甲酸丁苄酯 (BBP)	85-68-7	%(w/w)	0.003	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	117-81-7	%(w/w)	0.003	ND
邻苯二甲酸二异壬酯 (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.010	ND
邻苯二甲酸二正辛酯 (DNOP)	117-84-0	%(w/w)	0.003	ND
邻苯二甲酸二异癸酯 (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	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
- (2) 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DINP, DNOP, DIDP质量浓度高于0.1%时,



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不得投放市场。
 详细信息请参见Regulation (EC) No 552/2009.

全氟辛酸(PFOA)和全氟辛烷磺酸(PFOS)

测试方法： 参考CEN/TS15968:2010方法，用 LC-MS分析。

测试项目	CAS NO.	单位	MDL	002
全氟辛烷磺酸及其衍生物 (PFOS)^	-	mg/kg	10	ND
全氟辛酸(PFOA)	335-67-1	mg/kg	10	ND

备注：

(1) ^全氟辛烷磺酸(PFOS)及其衍生物包含全氟辛烷磺酸(PFOS)、全氟辛基磺酰胺(PFOSA)、2-(N-乙基全氟辛基磺酰胺)乙醇(EtFOSE)、N-甲基全氟辛烷磺酰胺(MeFOSA)、N-乙基全氟辛烷磺酰胺(EtFOSA)和2-(N-甲基全氟辛基磺酰胺)乙醇(MeFOSE)。

备注：本报告中的测试结果和图片引用自报告CANML1707314825。



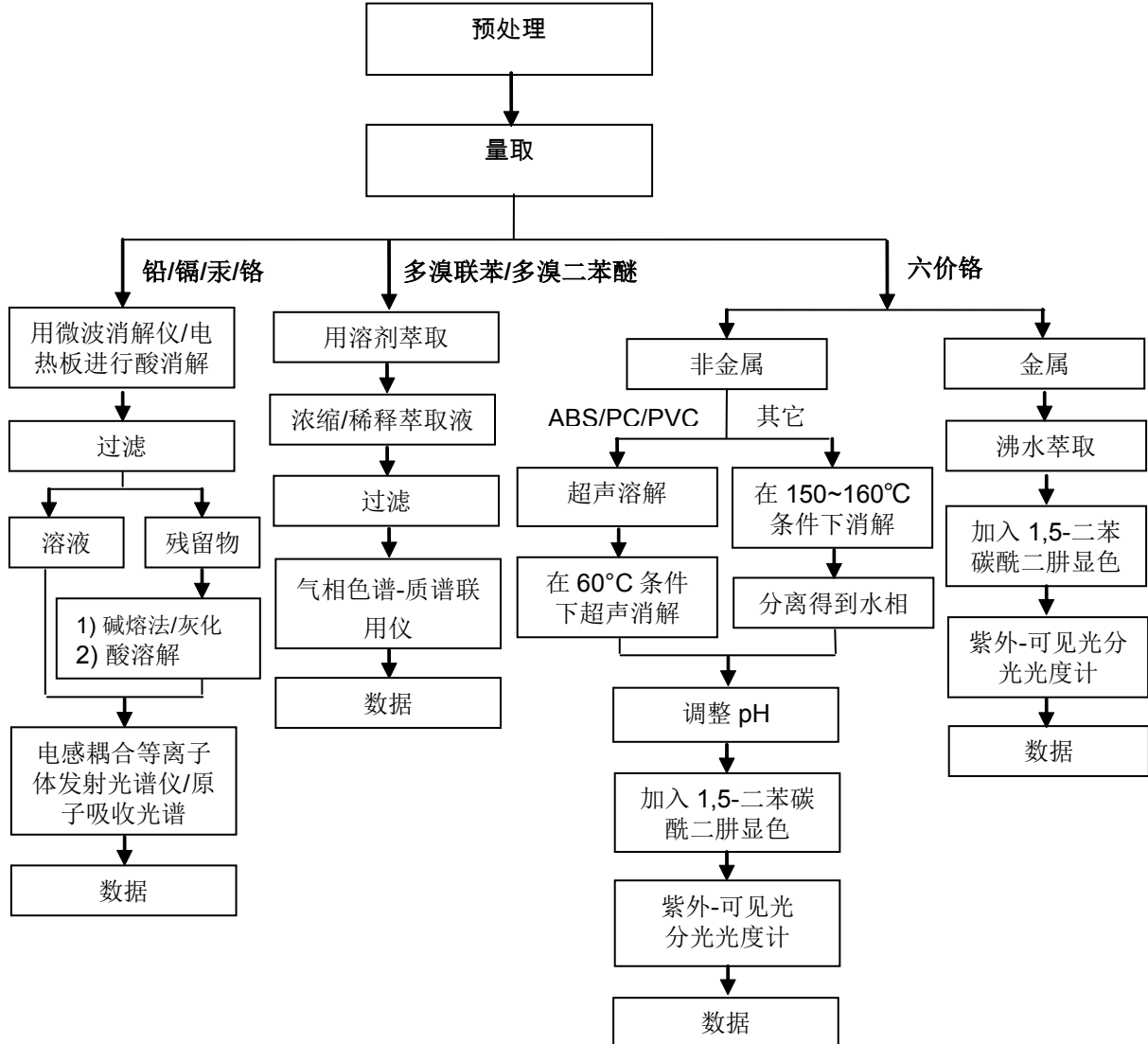
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附件

RoHS 测试流程图

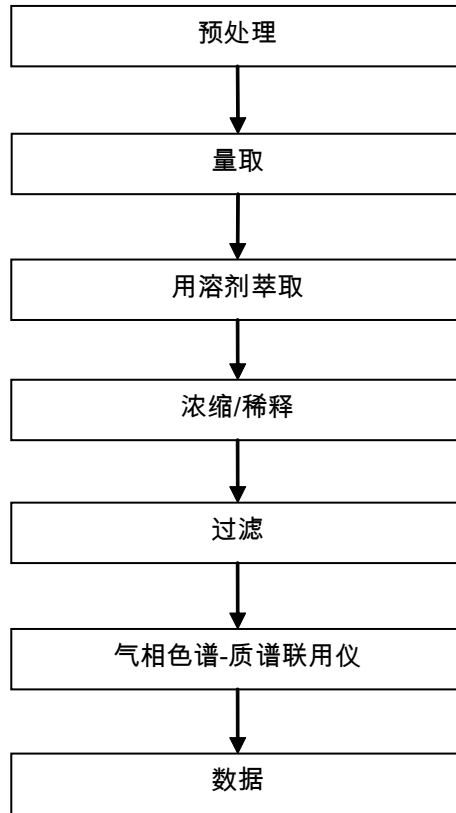
- 1) 分析人员: 张梓路 / 胡香云
- 2) 项目负责人: 汪丹 / 刘琼
- 3) 样品按照下述流程被完全消解 (六价铬和多溴联苯/多溴二苯醚测试除外)。



附件

Phthalates 测试流程图

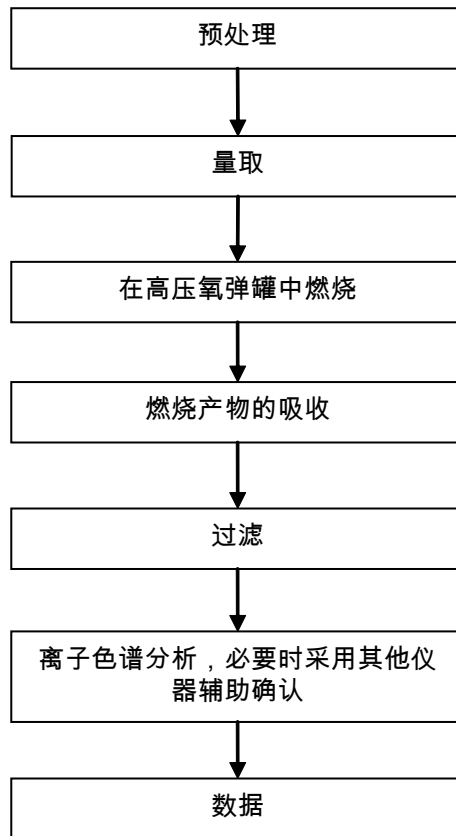
- 1) 分析人员: 胡香云
- 2) 项目负责人: 刘琼



附件

Halogen 测试流程图

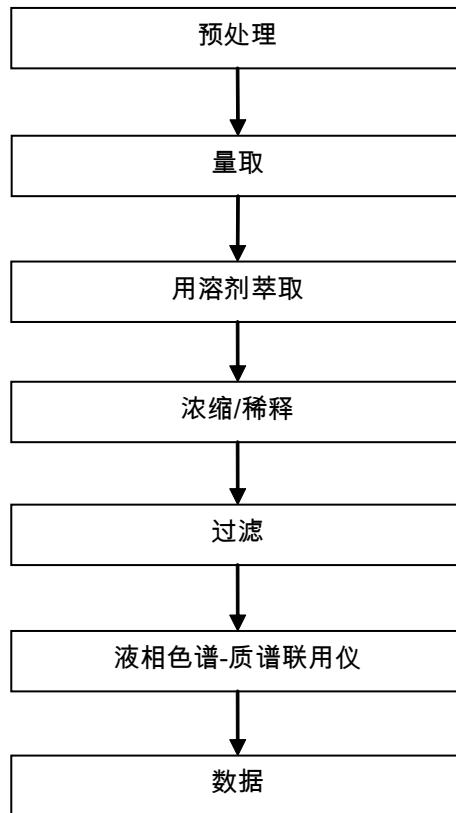
- 1) 分析人员: 肖戈
- 2) 项目负责人: 汪丹



附件

PFOA / PFOS 测试流程图

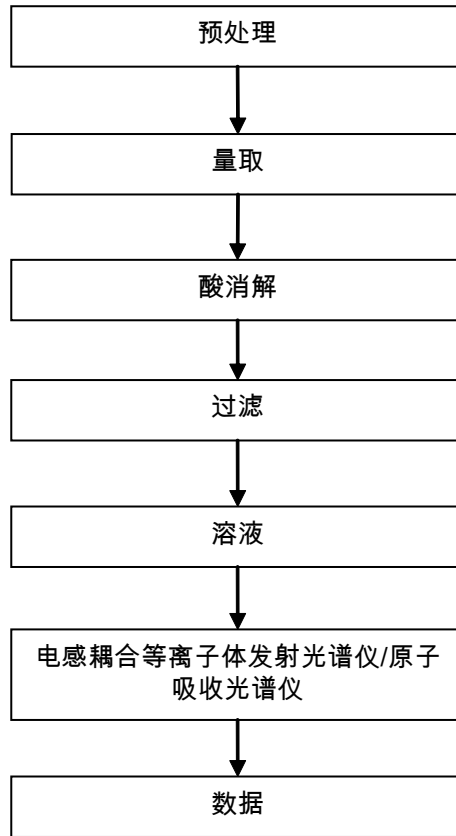
- 1) 分析人员 : 王志红
- 2) 项目负责人 : 刘琼



附件

元素测试流程图

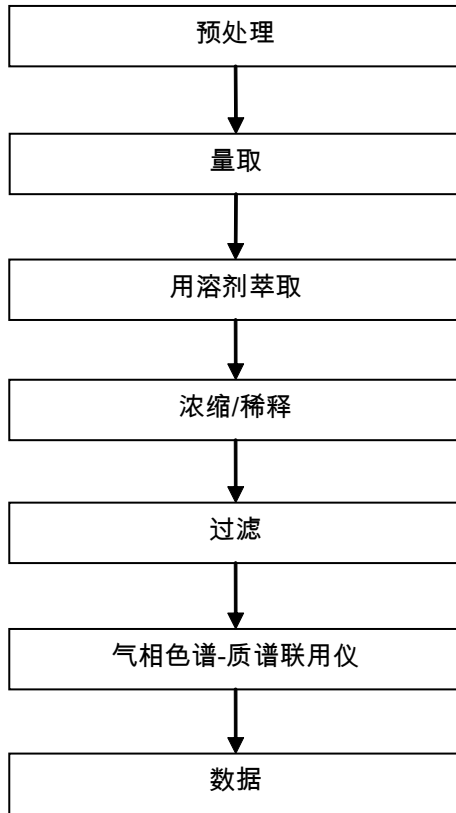
- 1) 分析人员: 张梓路
- 2) 项目负责人: 汪丹



附件

HBCDD 测试流程图

- 1) 分析人员: 胡香云
- 2) 项目负责人: 刘琼



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