

天津大沽化工股份有限公司  
中国天津市滨海新区塘沽兴化道1号

以下测试之样品是由申请者所提供及确认: 丙烯晴-丁二烯-苯乙烯 (ABS) 树脂

SGS工作编号: TP17-001577 - TJ  
样品接收日期: 2019年03月22日  
测试周期: 2019年03月22日 - 2019年03月29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。

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Reabeca Zhou周艳  
批准签署人

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测试结果:

测试样品描述:

SN1 TSN17-003619.002 浅黄色塑料颗粒

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

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 62321-6:2015, 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 (111/321/CD), 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)	1000	mg/kg	2	ND
汞(Hg)	1000	mg/kg	2	ND
六价铬(Cr(VI))	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
二溴二苯醚	-	mg/kg	5	ND



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测试项目	限值	单位	MDL	002
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.

测试方法: 参照EN 71-3:2013+A1:2014, 采用ICP-OES进行分析.

测试项目	限值	单位	MDL	002
可溶性六价铬 (CrVI)	0.2	mg/kg	0.18	ND
可溶性铅 (Pb)	160	mg/kg	10	ND
可溶性锑 (Sb)	560	mg/kg	10	ND
可溶性砷 (As)	47	mg/kg	10	ND
可溶性钡 (Ba)	18750	mg/kg	50	ND
可溶性镉 (Cd)	17	mg/kg	5	ND
可溶性三价铬 (CrIII)	460	mg/kg	5	ND
可溶性汞 (Hg)	94	mg/kg	10	ND
可溶性硒 (Se)	460	mg/kg	10	ND
可溶性硼 (B)	15000	mg/kg	50	ND
可溶性钴 (Co)	130	mg/kg	10	ND
可溶性锰 (Mn)	15000	mg/kg	50	ND
可溶性锶 (Sr)	56000	mg/kg	50	ND
可溶性锡 (Sn)	180000	mg/kg	4.9	ND
可溶性锌 (Zn)	46000	mg/kg	50	ND
可溶性铜 (Cu)	7700	mg/kg	50	ND
可溶性铝 (Al)	70000	mg/kg	50	ND



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测试项目	限值	单位	MDL	002
可溶性镍 (Ni)	930	mg/kg	10	ND
可溶性有机锡*	12	mg/kg	-	ND

## 备注:

- (1) 溶出总铬含量没有超过 EN71-3:2013+A1:2014中相应限量, 根据EN 71-3:2013+A1:2014的要求, 不需要额外分别测试溶出铬(III)和溶出铬(VI)的含量.
- (2) \*可溶性锡转化为可溶性有机锡后的含量没有超过 EN71-3: 2013+A1:2014中相应限量, 根据EN 71-3: 2013+A1:2014的要求, 不需要额外测试可溶性有机锡的含量.
- (3) 这项测试由SGS上海化学实验室操作.



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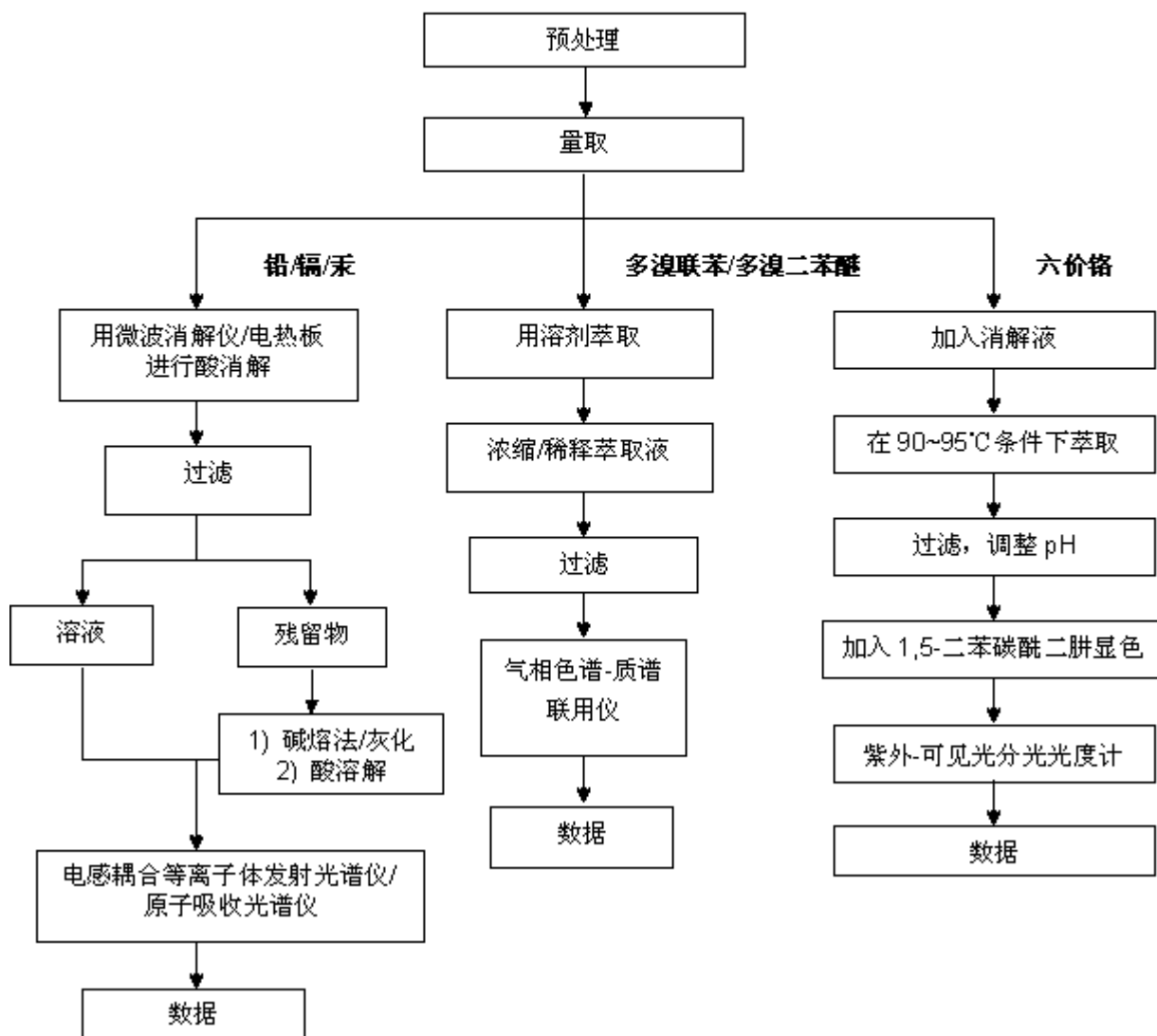
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## 附件

### 镉/铅/汞/六价铬/多溴联苯/多溴二苯醚测试流程图

- 1) 分析人员: 魏冬/刘占文/梁磊
- 2) 项目负责人: 王富强/朱敏
- 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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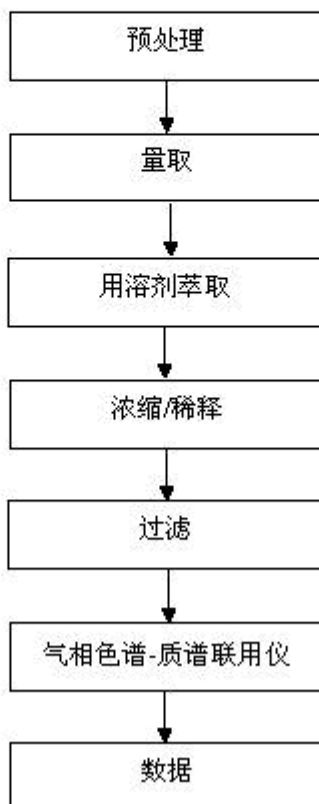
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## 附件

### 邻苯二甲酸酯测试流程图

- 1) 分析人员: 陈希涵
- 2) 项目负责人: 朱敏

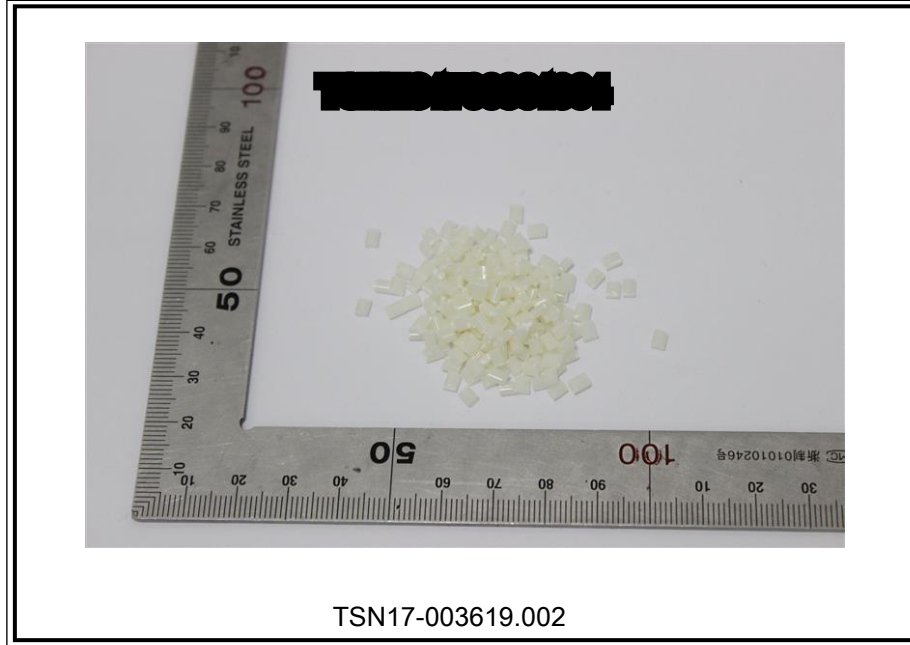


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