



检测报告

编号: CANEC2209914136

日期: 2022年06月15日 第1页,共13页

客户名称: 优耐铜材(苏州)有限公司
客户地址: 江苏省苏州市高新区金枫路567号

样品名称: 无氧铜
型号: Ø 25无氧铜球
客户参考信息: Ø14mm/Ø25mm 长/短无氧铜角
Ø 8mm长/短无氧铜角

以上样品及信息由客户提供。

本报告取代检测报告CANEC2209914104

SGS工作编号: CP22-026415 - GZ
内部编号: 22655395
样品接收日期: 2022年05月17日
检测周期: 2022年05月17日 - 2022年05月30日
检测要求: 根据客户要求检测
检测方法: 请参见下一页
检测结果: 请参见下一页

结论: 基于所送样品进行的检测, 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)、邻苯二甲酸丁苯酯(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))的检测结果显示符合欧盟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
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检测结果:

检测样品描述:

样品编号	SGS样品ID	描述
SN1	CAN22-099141.002	铜色金属

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

检测方法: 参考IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC 62321-6:2015
 和 IEC 62321-8:2017, 采用 ICP-OES, UV-Vis 和 GC-MS 进行分析。

检测项目	限值	单位	MDL	002
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(Cr(VI))▼	-	µg/cm²	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
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



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检测项目	限值	单位	MDL	002
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。

(2) 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

(3) ▼=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, 样品的六价格检测结果仅能代表检测时样品含六价格的状态。

卤素

检测方法: 参考EN 14582:2016, 用 IC 分析。

检测项目	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

检测方法: SGS内部方法 (GZTC CHEM-TOP-009-01, 参考EPA 3050B:1996), 采用ICP-OES进行分析。



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检测项目	单位	MDL	002
铍 (Be)	mg/kg	5	ND
锑 (Sb)	mg/kg	10	ND
砷 (As)	mg/kg	10	ND

邻苯二甲酸酯

检测方法: 参考 IEC 62321-8:2017, 采用 GC-MS 进行分析。

检测项目	CAS NO.	单位	MDL	002
邻苯二甲酸二异壬酯 (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.005	ND
邻苯二甲酸二异癸酯 (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.005	ND
邻苯二甲酸二正辛酯 (DNOP)	117-84-0	%(w/w)	0.005	ND
邻苯二甲酸二正己酯 (DnHP)	84-75-3	%(w/w)	0.005	ND

六溴环十二烷(HBCDD)

检测方法: SGS 内部方法(GZTC CHEM-TOP-073, 参考EPA 3550C:2007), 采用GC-MS进行分析。

检测项目	CAS NO.	单位	MDL	002
六溴环十二烷(HBCDD) 及其非对映异构体(α-HBCDD, β-HBCDD, γ-HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	mg/kg	10	ND

全氟辛酸(PFOA)及其盐 & 全氟辛烷磺酸 (PFOS)及其衍生物

检测方法: 参考CEN/TS 15968:2010, 采用LC-MS或LC-MS/MS进行分析。

检测项目	CAS NO.	单位	MDL	002
全氟辛酸 (PFOA) 及其盐+	335-67-1	mg/kg	10.000	ND
全氟辛烷磺酸 (PFOS) [^]	1763-23-1	mg/kg	10.000	ND
全氟辛基磺酰胺(PFOSA)	754-91-6	mg/kg	10.000	ND
N-甲基全氟辛烷磺酰胺(MeFOSA)	31506-32-8	mg/kg	10.000	ND
N-乙基全氟辛烷磺酰胺(EtFOSA)	4151-50-2	mg/kg	10.000	ND
2- (N-甲基全氟辛基磺酰胺) 乙醇(MeFOSE)	24448-09-7	mg/kg	10.000	ND
2- (N-乙基全氟辛基磺酰胺) 乙醇(EtFOSE)	1691-99-2	mg/kg	10.000	ND



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检测项目	CAS NO.	单位	MDL	002
全氟辛酸磺酸 (PFOS)及其衍生物	-	mg/kg	-	ND

备注:

- (1) + PFOA 及其盐包含PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) 和 APFO (CAS No.: 3825-26-1);
- (2) ^ 全氟辛酸磺酸 (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)

有机锡

检测方法: SGS内部方法 (GZTC CHEM-TOP-031, 参考ISO 17353:2004), 采用GC-MS进行分析。

检测项目	单位	MDL	002
二丁基锡(DBT)	mg/kg	0.02	ND
三丁基锡(TBT)	mg/kg	0.02	ND
二辛基锡(DOT)	mg/kg	0.02	ND
三苯基锡(TPhT)	mg/kg	0.02	ND

C₁₀~C₁₃ 氯代烃(短链氯化石蜡)(SCCPs)和C₁₄~C₁₇ 氯代烃(中链氯化石蜡)(MCCPs)

检测方法: 参考ISO 18219-1:2021 & ISO 18219-2:2021, 采用GC-NCI-MS进行分析。

检测项目	CAS NO.	单位	MDL	002
C ₁₀ ~C ₁₃ 氯代烃(短链氯化石蜡)(SCCPs)	85535-84-8 和其 它	mg/kg	50	ND
C ₁₄ ~C ₁₇ 氯代烃(中链氯化石蜡)(MCCPs)	85535-85-9 和其 它	mg/kg	50	ND

本报告更新了型号, 客户参考信息。

除非另有说明, 参照ILAC-G8:09/2019, 使用简单接受 ($w=0$) 的二元判定规则进行符合性判定。

除非另有说明, 此报告结果仅对检测的样品负责。本报告未经本公司书面许可, 不可部分复制。

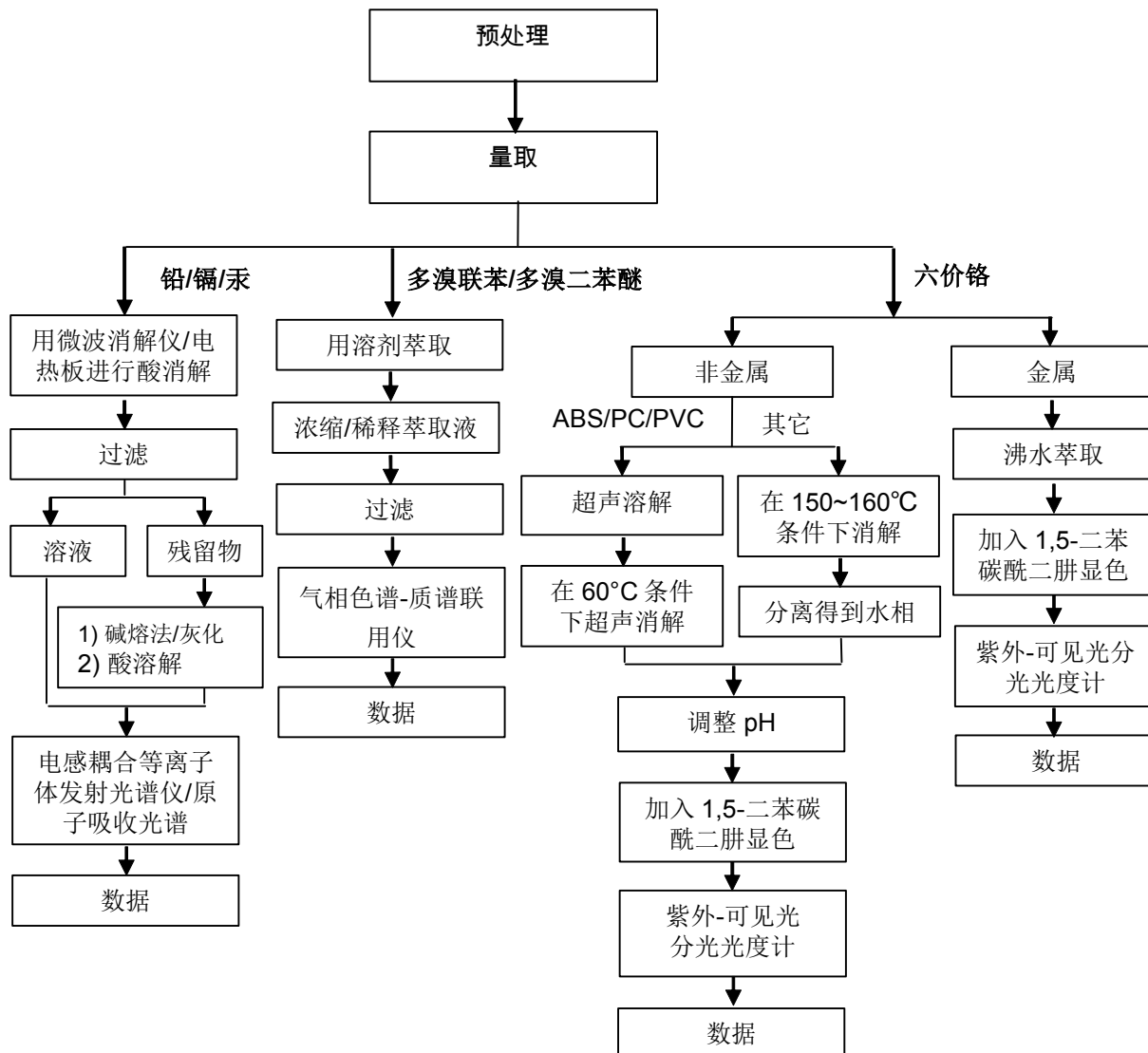
检测报告仅用于客户科研、教学、内部质量控制、产品研发等目的, 仅供内部参考。



附件

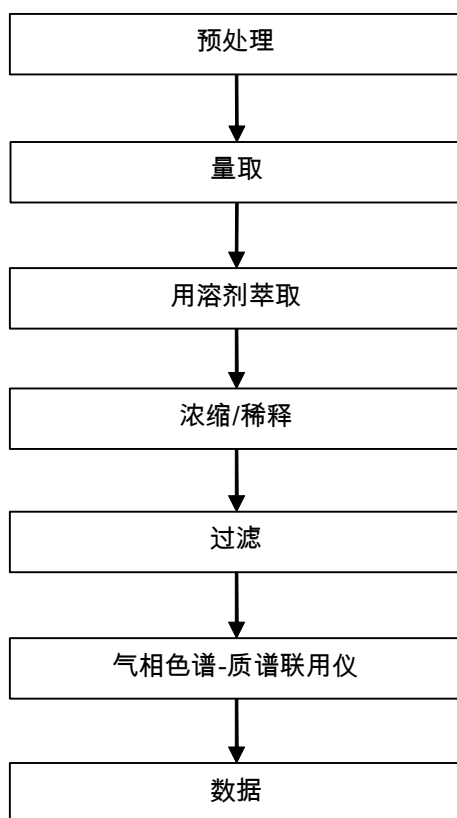
Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs 检测流程图

1) 样品按照下述流程被完全消解(六价铬和多溴联苯/多溴二苯醚检测除外)。



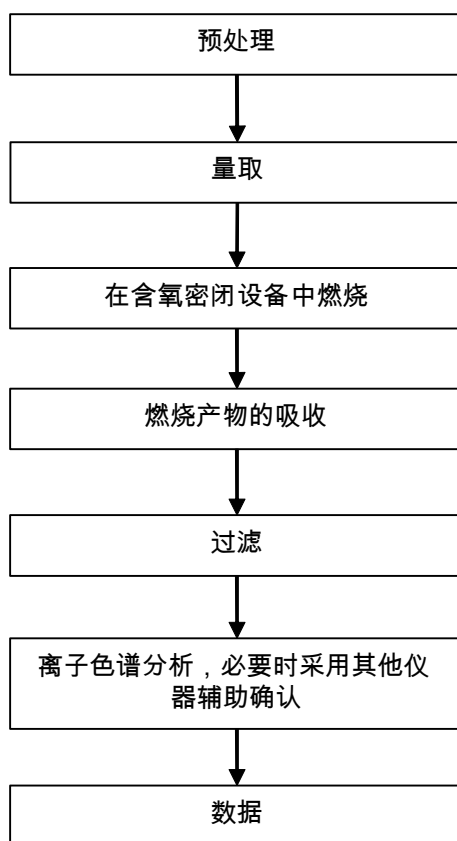
附件

Phthalates 检测流程图



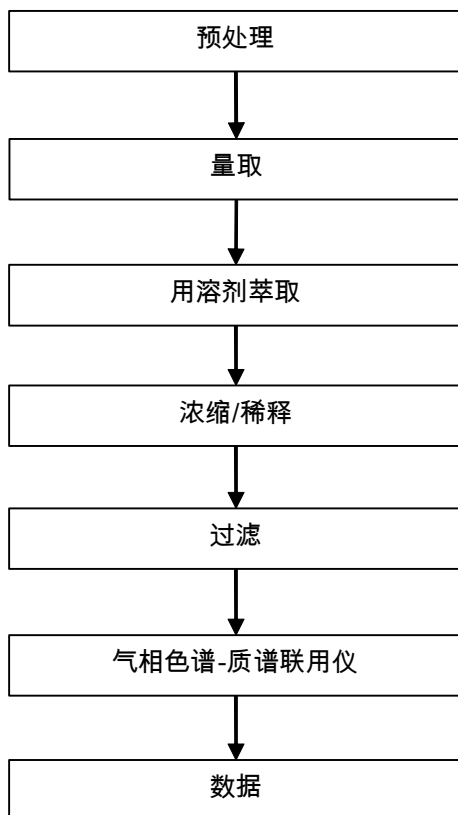
附件

Halogen 检测流程图



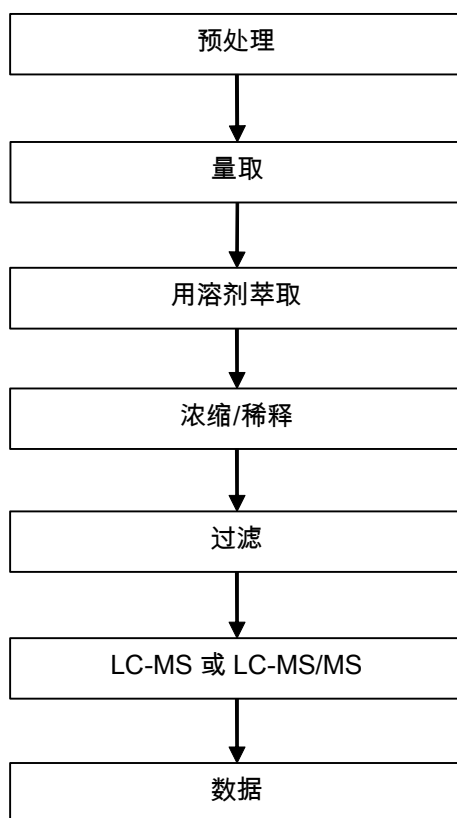
附件

HBCDD 检测流程图



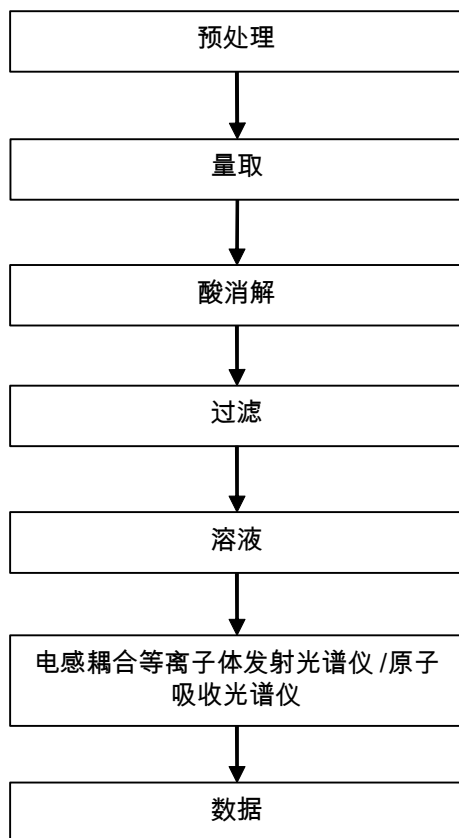
附件

PFOA / PFOS 检测流程图



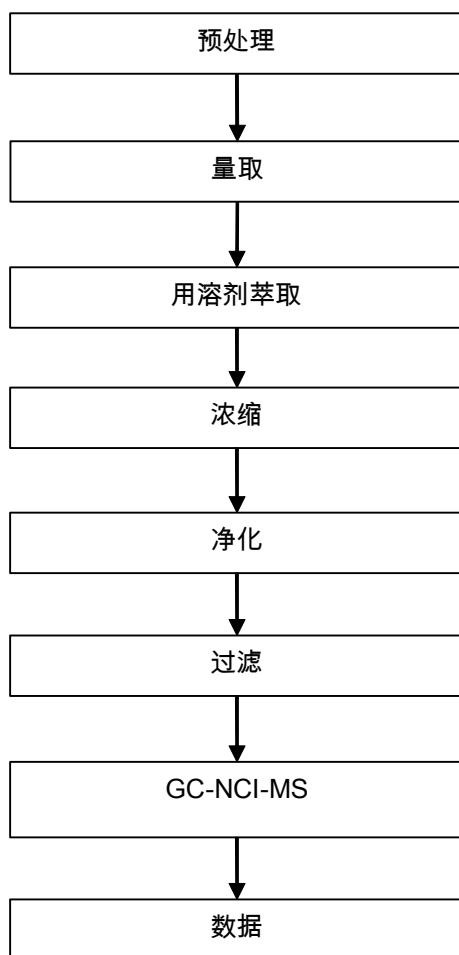
附件

元素检测流程图



附件

SCCP/MCCP/LCCP 检测流程图



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样品照片:



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