浙江创都电子科技有限公司

Zhejiang ChuangDu Electronics And Technology CO.,LTD.

产品承认书

Product Approval Sheet

客户名称
Customer: _____

创都料号
CAX Part No.: 001-0003-*** _____

客户料号
Cust Part No.: _____

品名规格
Descrption: 1.25卧立贴亮锡卷装 _____

日　　期
Date: 2024/05/05 _____

客户承认 Customer Approval			栩睿确认 CAX Confirm		
核准 Approved by	审核 Checked by	承办 Handler	核准 Approved by	审核 Checked by	承办 Handler
			王红芳	黄斌斌	叶云龙

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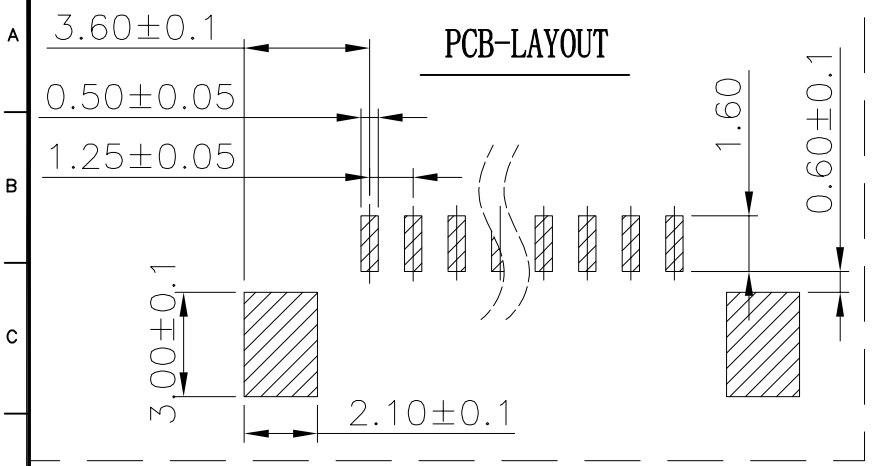
变更单号	版本	日 期	内 容 描 述	变更者

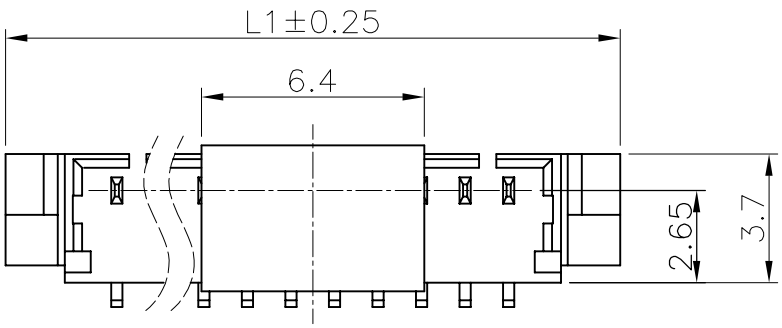


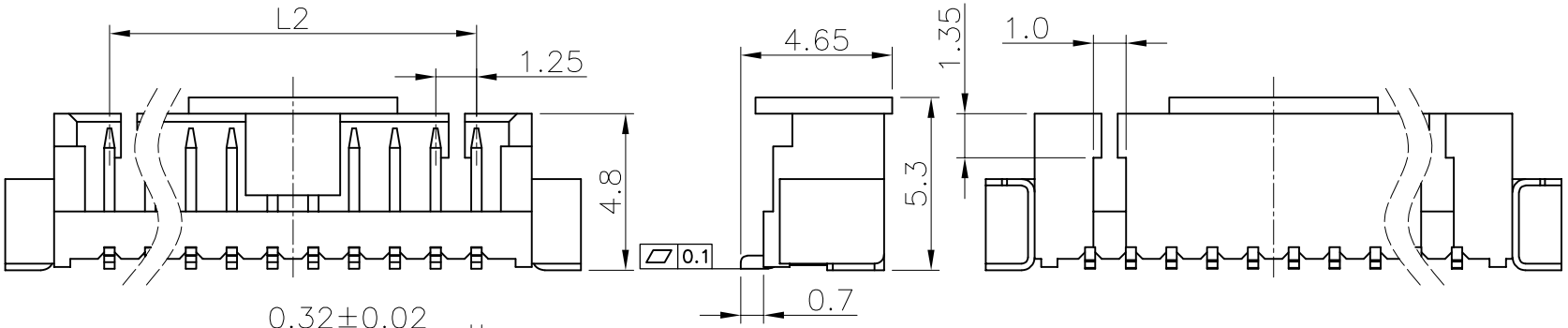
技术参数:

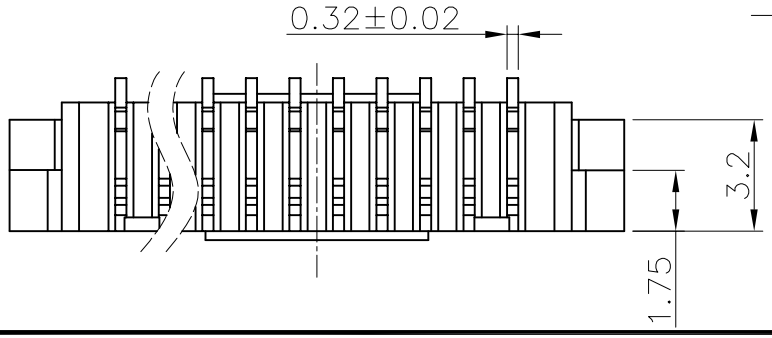
1. 额定电流:1A AC/DC.
2. 额定电压:200V AC/DC.
3. 工作温度:-20℃ to 85℃.
4. 接触电阻:30mΩMax.
5. 绝缘电阻:500MΩMin.
6. 耐电压:500V AC/minute.
7. 符合ROSH要求.

材料

1. 基座:LCP.
2. 插针和焊片:黄铜.
3. 电镀:镍 和 锡.







名 称	L1	L2
1.25-16ALTGB	25.0	18.75
1.25-15ALTGB	23.75	17.5
1.25-14ALTGB	22.5	16.25
1.25-13ALTGB	21.25	15.0
1.25-12ALTGB	20.0	13.75
1.25-11ALTGB	18.75	12.5
1.25-10ALTGB	17.5	11.25
1.25-9ALTGB	16.25	10.0
1.25-8ALTGB	15.0	8.75
1.25-7ALTGB	13.75	7.5
1.25-6ALTGB	12.5	6.25
1.25-5ALTGB	11.25	5.0
1.25-4ALTGB	10.0	3.75
1.25-3ALTGB	8.75	2.5
1.25-2ALTGB	7.5	1.25

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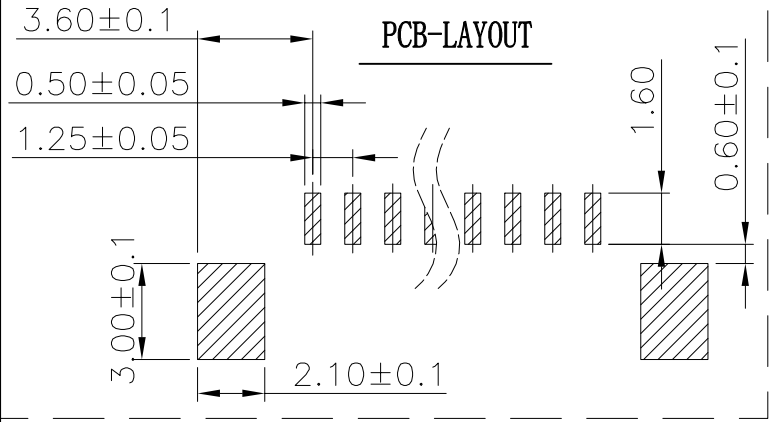
ZHEJIANG CHUANGDU ELECTRONICS AND TECHNOLOGY CO.,LTD.

X. ±0.50 X.X ±0.25 X.XX ±0.20 X° ±3°	设计	叶云龙	日期	2020.9.30	名称	1.25-8ALTGB	
	审核	王红芳	日期	2020.9.30	料号	001-0003-***	
	批准	黄斌斌	日期	2020.9.30			
未 注 公 差	比例	1:1	单位	mm	版本	A	页码 1 OF 1 A4

变更单号	版本	日 期	内 容 描 述	变更者

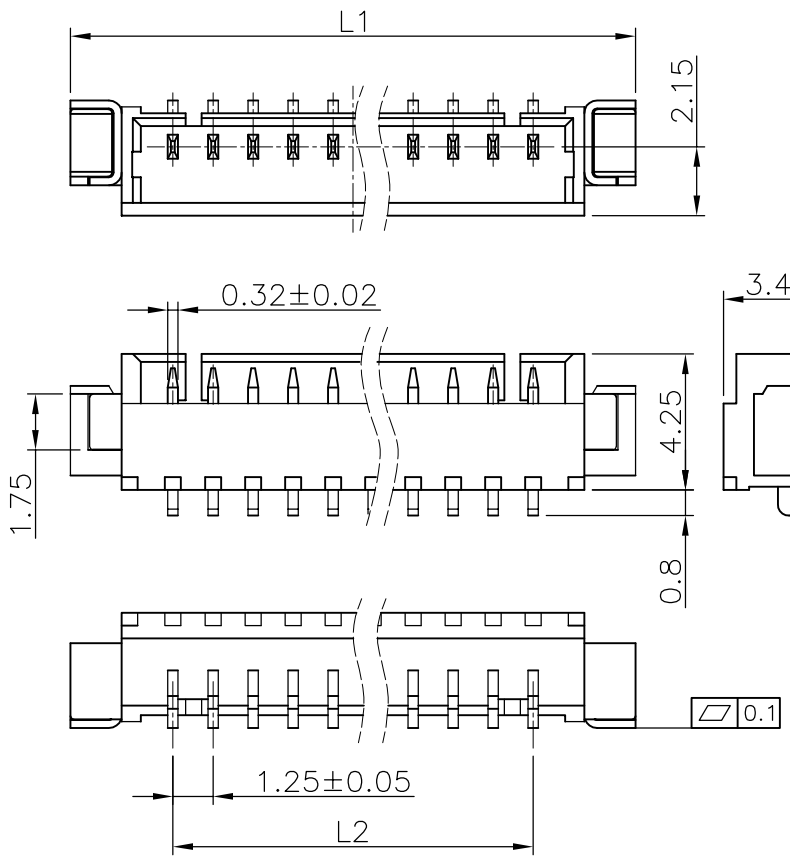


技术参数:

1. 额定电流:1A AC/DC.
2. 额定电压:200V AC/DC.
3. 工作温度:-20℃ to 85℃.
4. 接触电阻:30mΩMax.
5. 绝缘电阻:500MΩMin.
6. 耐电压:500V AC/minute.
7. 符合ROSH要求.

材料

1. 基座:LCP.
2. 插针和焊片:黄铜.
3. 电镀:镍 和 锡.



名 称	L1	L2
1.25-16AWTB	25.0	18.75
1.25-15AWTB	23.75	17.5
1.25-14AWTB	22.5	16.25
1.25-13AWTB	21.25	15.0
1.25-12AWTB	20.0	13.75
1.25-11AWTB	18.75	12.5
1.25-10AWTB	17.5	11.25
1.25-9AWTB	16.25	10.0
1.25-8AWTB	15.0	8.75
1.25-7AWTB	13.75	7.5
1.25-6AWTB	12.5	6.25
1.25-5AWTB	11.25	5.0
1.25-4AWTB	10.0	3.75
1.25-3AWTB	8.75	2.5
1.25-2AWTB	7.5	1.25

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X. ±0.50 X.X ±0.25 X.XX ±0.20 X° ±3°	设计	叶云龙	日期	2020.9.30	名称	1.25-5AWTB	
	审核	黄斌斌	日期	2020.9.30	料号	001-0003-***	
	批准	王红芳	日期	2020.9.30			
未注公差	比例	1:1	单位	mm	版本	A	页码 1 OF 1 A4

产品变更履历表

版本	日期	制定/修改/废止内容	制定	核准
A0	2019.01.28	新版制订	ANLAN	黄斌斌

浙江创都电子科技有限公司

SPECIFICATION

浙江省温州市蒲岐镇工业区

Industrial Zone, PuQi Town,

WenZhou City, ZheJiang Province

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SPEC. NO.: **SPEC-015** **REVISION:** **A**

PRODUCT NAME: 1.25MM PITCH CONNECTOR TYPE

(1.25MM间距A型WTB）

PRODUCT NO: **WT125A＊－XXXX-XX**

PREPARED:	CHECKED:	APPROVED:
ANLAN	LISHAOZONG	HUANGBINBIN
DATE:	DATE:	DATE:
2020/11/01	**2020/11/01**	**2020/11/01**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
A		The first edition	ANLAN	2017/11/01

1、Scope 适用范围

The contents of specifications for 1.25 A TYPE series connector strip, including product performance, test methods and inspection requirements

本规格书内容适用于 1.25A 型系列条形连接器，包含产品的性能，试验方法和试验要求

2、 适用标准 APPLICABLE STANDARDS

以下参考文件是本规格书的一个组成部份。若本规格书中的要求与产品图纸发生冲突，则产品图中的要求为优先；若本规格书中的要求与参考文件中的要求冲突，则本规格书为优先。

The following documents form a part of this specification. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 **GB/T2421** Testing method for Environmental of Electrical Connectors Class1: General Principles
电工电子产品环境试验 第一部分 总则

2.2 **GB/T2423** Testing method for Environmental of Electrical Connectors
电工电子产品环境试验方法

2.3 **GB/T2424** Testing method for Environmental of Electrical Connectors
电工电子产品环境试验导则

2.4 **GB/T5095** Testing procedure/method for components of electric equipment
电子设备用机电元件基本试验规则及测量方法

3、 参数范围 Parameter Ratings

额定电流 Rated Current	AWG28 1.0A [AC(有效值 rms)/DC]
额定电压 Rated Voltage	125V [AC(有效值 rms)/DC]
使用温度范围 Operating temperature range	-25℃～+85℃
适用线规 Applicable Wire Sizes	AWG＃28～＃32
适用 PC 板厚度 Applicable PC board thickness	1.6mm

4、 Appearance and Dimension 外观尺寸

4.1 Appearance：Product surface without defect、dirt、crack、and mechanical damage, Contact without rust plating not oxides and not peeled
产品表面不应有对制品有害的缺陷、污垢、裂痕及机械损伤；接触件无锈蚀、镀层氧化、脱落等现象。

4.2 Dimension: According to drawings
外观尺寸：依照附图

4.3 Exchangeable: Exchangeable with same specification products.
互换性：相同规格应能互换

	Wenda P/N: WT125A* series

TITLE:1.25MM PITCH CONNECTOR TYPE

RELEASE DATE: 2017/11/01	REVISION: A	ECN No:	PAGE: 5 OF 14

5、Material:
材 料

P/N 零件名称	Type 类型	Material 材料	Finish 表面处理	Explain 说明
Terminal 端子	Contact 插簧	Phosphor bronze 锡青磷铜 厚0.15mm	Tin plating:2-3 μ m 镀锡2-3 μ m	ROHS
Housing 孔座	Plastic 塑壳	Nylon66 UL94V-0	Color: white 颜色：白色	
Wafer 闭口针座 开口针座	Plastic 塑壳	PA66 UL94 V-0	Color: Beige/white 颜色：米色/白色	
	Contact 插针	Brass 黄铜 厚 0.30mm	Tin Plating 2-4 μ m 镀锡：2-4 μ m	
Wafer 立/卧贴针座	Plastic 塑壳	LCP UL94V-0	Color: Natural 颜色：本色	
	Contact 插针	Brass 黄铜 厚0.20mm	Tin Plating:2-4 μ m 镀锡2-4 μ m	
	Solder tab 焊护耳	Brass 黄铜 厚0.20mm	Tin Plating:2.5-4.5 μ m 镀锡：2.5-4.5 μ m	

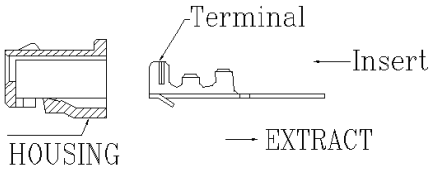
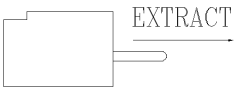
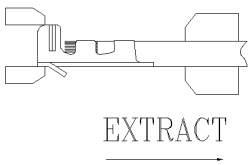
6、Electrical Performance:
电气性能

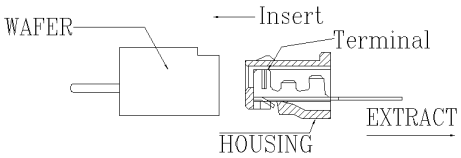
NO 序号	Item 项目	Test mode 试验方法	Requirement 技术要求
6.1	外观 Appearance	Checking by eye 视力：1.0 以上 Eyesight: > 1.0 照明：（200～300）lx Lamp: （200～300）lx 目测距离：（0.3～0.5）m Space: （0.3～0.5）m GB/T 5095.1 Method 1a	1.塑料件表面应无明显疤痕、凹陷、开裂及影响使用的变形。 Plastic part: smooth and flat surface without discolor, broken, crack, and distortion, etc. 2 金属件表面无锈蚀、氧化 、无明显的机械损伤及电镀层脱落等缺陷。 Metal part: bright and even surface without rust, oxide, fog and obvious physical damage, etc.

	Wenda P/N: WT125A* series

TITLE: 1.25MM PITCH CONNECTOR TYPE

RELEASE DATE: 2017/11/01	REVISION: A	ECN No:	PAGE: 6 OF 14

NO 序号	Item 项目	Test mode 试验方法	Requirement 技术要求	
6.2	端子的插入力与固定力 Insertion force and Retention Force for Contact	固定连接器或测力计，在连接器轴线方向插入和拔出；速度不大于 25 mm/min Axial Insert and withdraw force on the contact in the housing at a rate of 25 mm per minute. (GB/T 5095.8 Method 15d / EIA-364-29B) 	插入力 (Insertion) Max	固定力 (Retention)Min
			3N	1N
6.3	针的固定力 Retention Force for Pin	固定连接器/或测力计，在连接器轴线方向施加规定的推力进行测试，速度不大于25mm/min。 Apply thrust force on the Pin in the wafer at a rate of 25mm/min (GB/T 5095.8 Method 15a / EIA-364-29B) 	5N Min	
6.4	压着部位抗张强度 Crimping Pull Out Force	在试验装置夹头中固定试验样品，在连接的轴线方向施加张力;速度不大于 25mm/min。 Fix the crimped contact, Axial pull out force on the contact in the housing at a rate less than 25 mm /min. (GB/T5095.8-1997 Method 16d / EIA-364-08B) 	AWG#28: 13N Min.	
			AWG#30: 8N Min.	
			AWG#32: 6N Min.	

NO 序号	Item 项目	Test mode 试验方法	Requirement 技术要求
6.5	成品插入力与拔出力 Insertion and Withdrawal Force for Connector	固定连接器和/或测力计，在连接器轴线方向插入和拔出；速度不大于 25mm/min Apply Axial Insert and withdraw force on the contact in the housing at a rate of 25 mm /min. (GB/T 5095.7 Method 13b / EIA-364-13B)  	见附页 1
6.6	振动 Vibration	组合状态下的连接器焊接电路板上作为实验样品，依照如下规格要求，进行耐震动实验，实验过程中确定是否产生不连续电流（断电）现象，实验过后测量接触电阻值 Mate connector combination state of the welding circuit board as test samples the request in accordance with the following specification resistance to vibration test whether to produce discontinuous current determined during the experiment (off) phenomenon after the experiment measuring contact resistance Frequency（频率）：10-55-10Hz/minute Amplitude(振幅)：1.5mmp-p Direction(方向)： 1、Axis of up and down 上下轴向（Y 轴） 2、Axis of right the left 左右轴向（X 轴） 3、Axis of front and back 前后轴向（Z 轴） 每一个轴向持续 2 小时 Period(周期)：2hour for each direction (GB/T 5095.4 Method 6d / EIA-364-28D)	Appearance: No damage 外观：无损伤 Contact Resistance ≤40mΩ 接触电阻≤40mΩ Current Discontinuity I micro second Max 电流中断：1μm sec Max
6.7	机械冲击 Shock	孔座连同端子与针座两端互配以每分钟 25±3mm 的速率作插入力测试 The housing together with the terminal ends with wafer matched at a rate per minute to25±3mm inserting force test (GB/T 5095.4 Method 6c / EIA-364-27B)	参照 6.6

NO 序号	Item 项目	Test mode 试验方法	Requirement 技术要求
6.8	机械寿命 Durability	以每分钟 10 次的速度插拔 30 次。 30 cycles mating and unmating test at the speed 10 cycles per minute (GB/T 5095.5 Method 9a / EIA-364-09C)	Appearance: No damage 外观：无损伤 Contact Resistance≤40mΩ 接触电阻≤40mΩ

7、电气性能 Electrical

NO 序号	Item 项目	Test mode 试验方法	Requirement 技术要求
7.1	接触电阻 Contact Resistance	插配连接器后,用小功率电路进行测试 Mate connectors with dry circuit to test Contact Resistance (GB/T 5095.2 Method 2a / EIA-364-23B)	≤20mΩ.(Initial) ≤40mΩ(Final)
7.2	绝缘电阻 Insulation Resistance	在相邻接触件之间或地线之间,用 500V DC 电压进行测试. Apply a voltage of 500V DC between adjacent contacts and between contacts to ground. (GB/T 5095.2 Method 3a / EIA-364-21C)	≥100MΩ (Initial) ≥50MΩ (Final)
7.3	耐电压 Withstand Voltage	相邻接触件之间或地线之间施加 500V AC (有效值),漏电流 1mA 的电压作用,时间 1min. Apply a voltage of AC 500 V for 1 minute between adjacent contacts and between contacts to ground. (GB/T 5095.2 Method 4a / EIA-364-20B)	外观：无击穿和飞弧现象 Appearance: No Breakdown
7.4	温升 Temperature Rise	插合连接器，通以最大允许电流，测温度的差值 Mate connectors and measure the temperature rise of contact when the maximum AC rated current is passed. (GB/T 5095.3 Method 5a / EIA-364-70A)	△30℃ Max

8、 Endurance Characteristics:

环 境 性 能

NO 序号	Item 项目	Test mode 试验方法	Requirement 技术要求
8.1	耐高温 Heat Resistance	连接器配合后，于(85±2)℃的空气中放置 96 小时，再回到室温中放置 1-2 小时测定 Mate connector exposed to the condition of (85±2)℃ for 96 hours. Recovery time 1~2 hours (GB/T 5095.6 Method 11i / EIA-364-17B)	外观：无损伤 Appearance: No damage 接触电阻：≤40mΩ Contact resistance: ≤40mΩ 绝缘电阻：≥50MΩ Insulation Resistance ：≥50MΩ 耐电压：500V Min. Withstand Voltage: 500V Min
8.2	耐低温 Cold Resistance	连接器配合后，于-25±2℃的空气中放置 96 小时，再回到室温中放置 1-2 小时测定 Mated connectors exposed to the condition of -25±2℃ for 96 hours. Recovery time 1~2 hours (GB/T 5095.6 Method 11j / EIA-364-17B)	外观：无损伤 Appearance: No damage 接触电阻：≤40mΩ Contact resistance: ≤40mΩ 绝缘电阻：≥50MΩ Insulation Resistance ：≥50MΩ 耐电压：500V Min. Withstand Voltage: 500V Min
8.3	恒定湿热 Humidity	温度(40±2)℃,相对湿度(90～95)%搁置时间 96h，取出恢复 1~2h 后检查. Mated connector exposed to the condition of 40±2 ℃ (90~95)% Humidity for 96 hours. Recovery time 1~2 hours (GB/T 5095.6 Method 11c /EIA-364-31B)	外观：无损伤 Appearance: No damage 接触电阻：≤40mΩ Contact resistance: ≤40mΩ 绝缘电阻：≥50MΩ Insulation Resistance ：≥50MΩ

8.4	温度循环 Temperature Cycling	组合状态下的连接器作为试验样品，依照如下规格要求，进行冷热冲击试验，试验后测量接触电阻、绝缘电阻、以及耐电压测试 The combined state of connectors as test samples, in accordance with the requirements of the following specifications, thermal shock test, after the test measuring contact resistance, insulation resistance, and resistance to voltage One cycle consists of: -55±3℃,30min,Room temp.10-15 min 85±3℃,30min,Room temp.10-15 min Total cycle：5 cycle -55±3℃,30 分钟，放置转换时间 10-15 分钟 85±3℃,30 分钟，放置转换时间 10-15 分钟 循环次数：5 (GB/T 5095.6 method 11d / EIA-364-32C)	外观：无损伤 Appearance: No damage 接触电阻：≤40mΩ Contact resistance: ≤40mΩ 绝缘电阻：≥50MΩ Insulation Resistance ：≥50MΩ
8.5	盐雾 Salt Spray	把试验样品从试验箱顶悬挂下来，采用浓度为(5±1)%(质量百分比)的氯化钠溶液，在(35±2)℃温度下连续雾化 24h,试验后用流动的蒸蒸馏水轻轻洗去表面沉积物。在常温常湿条件下恢复1~2h。 24 hours spray, at temp 35±2℃, Salt NaCl mist (5±1)%After test wash parts and return to room ambient for 1~2h hours (GB/T 5095.6 Method 11f /EIA-364-26B)	外观：无损伤(五金件应无露出底金属的严重锈蚀;使用预镀好的型材，其落料面允许有不影响其性能的轻微腐蚀。) Appearance：No Damage (No erosion with material exposed. And with plating material, slight erosion on the cutting surface is acceptable) 接触电阻：≤40mΩ Contact resistance: ≤40mΩ
8.6	可焊性 Solderability	放置锡炉中依照如下规格进行焊锡试验 In accordance with the following specifications were placed tin soldering test 焊锡温度：245±5℃ 沉浸周期：3±0.5S Solder Temperature:245±5℃ Immersion period:3±0.5S (GB/T 5095.6 Method 12a / EIA-364-52)	焊锡面积：≥95% Area of Soldering：≥95%

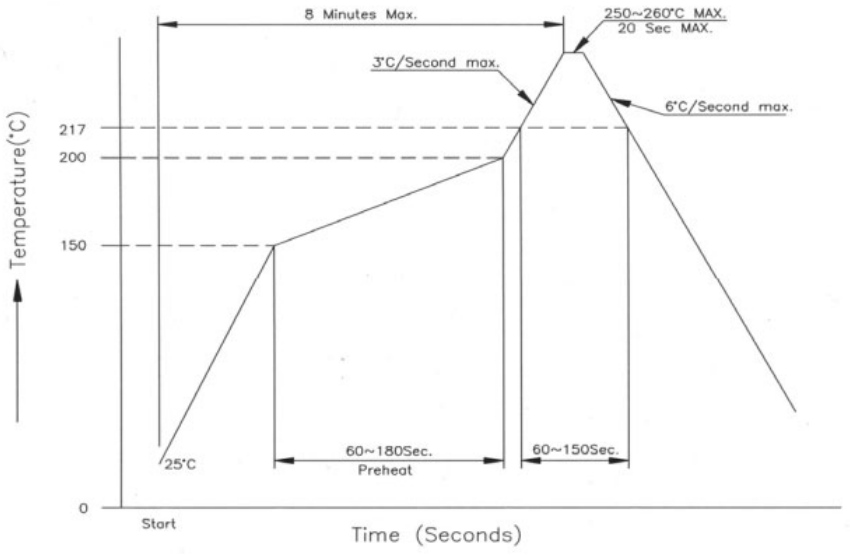
NO 序号	Item 项目	Test mode 试验方法	Requirement 技术要求
8.7	耐焊接热 Resistance to Soldering Heat	1、耐波峰焊(适用直弯针类产品)：把试验样品需要焊接的部位浸入焊锡炉中,锡炉温度（260±5）℃；时间（5±1）s 后，在正常条件下恢复 1~2h。 Dip solder tails into the molten solder(held at 260±5°C for 5±1 sec, Recovery time 1~2 hours. (GB/T 5095.6 Method 12d / EIA-364-56A)	外观：无损伤 Appearance: No damage
		2.手工焊接：温度(350±10)℃，时间(3±0.5) s Manual soldering ：(350±10)℃ for (3±0.5) seconds (GB/T 5095.6 Method 12E / EIA-364-56A)	
		3、回流焊形式(适用 SMT 类产品) 焊接时间：20S 最大，焊接温度： 255± 5℃ Reflow soldering process，Soldering time：20 S Max Soldering pot： 255± 5℃ 回流焊请参考9.1温度曲线图 Please refer to the 9.1 solder reflow temperature curve	

9、The reflow temperature curve

回流焊温度曲线

9.1 SMT lead-free process temperature curve

SMT 无铅工艺温度曲线



10、 Packaging Transportation Storage

包装、运输、储存

10.1 Packaging

包装

（1）Terminal within the Packaging for disc loading material Packaging plastic shell packaging for plastic has seat plates tubes mounted (paste) into the certificate indicate the product name specifications quantity production date and other information

端子内包装为盘装带料包装、胶壳内包装为塑料带，针座包装为盘装，袋装，(贴）装入合格证,注明产品名称、规格型号、数量、出货日期等信息。

（2）Exterior package is carton facing the packing list the packing list marked with product name specification model quantity date of dispatch

外包装为纸箱，贴装箱单，装箱单上注明产品名称、规格型号、数量、出货日期

（3）The product in the box must not rock

产品在箱内不晃动

10.2 Transportation

运输

Any vehicle can be adopted for the transportation but moisture-proof and no mechanical damage Transport temperature to -20℃～+50℃

允许用任何方式运输，但须避免雨雪直淋和阳光照射。不能有碰撞和挤压等机械损伤，运输环境温度为-20℃～+50℃

10.3 Storage

贮存

（1）The connector of packing finished should be in the ambient temperature between-20℃ to +30℃ relative humidity ≤80% to store in storehouse air and other corrosive gas in the ambient air

包装完毕的连接器应在环境温度为-20℃ ～+30℃，相对湿度≤80%，周围空气中没有酸性，碱性及其它腐蚀性气体的库房中贮存

（2） Re-qualification test shall be conducted immediately while the storing duration exceed 6 mouths

贮存期为 6 个月，超期 6 个月需重新检查

	Wenda P/N: WT125A* series

TITLE: 1.25MM PITCH CONNECTOR TYPE

RELEASE DATE: 2017/11/01	REVISION: A	ECN No:	PAGE:13 OF 14

11.CONNNECTOR TESTS AND SEQUENCES (测试顺序)

Test or Examination	Test Group															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Test Sequence (a)															
外观 Appearance	1	1	1	1	1,5	1,3	1,7	1	1	1,7	1,7	1,7	1,7	1,5	1	1,3
端子的插入力与固定力 Insertion force and Retention Force for Contact	2															
针的固定力 Retention Force for Pin		2														
压着部位抗张强度 Crimping Pull Out Force			2													
成品插入力与拔出力 Insertion and Withdrawal Force for Connector				2												
机械振动 Random Vibration					3											
机械冲击 Shock						2										
机械寿命 Durability							5									
接触电阻 Low Level Contact Resistance					2,4		2,6			2,4	2,4	2,4	2,4	2,4		
绝缘电阻 Insulation Resistance							3			5	5	5	5			
耐电压 Withstand Voltage							4			6	6	6	6			
温升 Temperature Rise									2							
耐高温 Heat Resistance										3						
耐低温 Cold Resistance											3					
恒定湿热 Humidity												3				
温度循环 Temperature Cycling													3			
盐雾 Salt Spray														3		
可焊性 Solderability															2	
耐焊接热 Resistance to Soldering Heat																2

6.5 成品插入力与拔出力

附件 1

Pin	首次插入力(N)	首次拔出力(N)
	(Insertion 1st)Max	Withdrawal(1st) Min
2	19.60	2.74
3	24.50	2.94
4	29.40	3.23
5	34.30	3.72
6	39.20	4.21
7	44.10	4.70
8	49.00	5.19
9	53.90	5.49
10	58.80	5.78
11	63.70	6.08
12	68.60	6.37
13	73.50	6.66
14	78.40	6.96
15	83.30	7.25

1.25-A型卧&立式WTB产品过程控制流程图

序号	生产"◇"	搬运"○"	储存"△"	检验"□"	过程描述	地点	设备	等级	产品特殊特性	等级	过程特殊特性
1				□	进料检验	IQC	显微镜/卡尺/钢尺		规格型号		
								△	胶料/铜材性能		
									外观状态/包装状态		
2			△		材料入/出库	仓库	——		材料储存		材料入库/搬运
3	◇				冲压端子/焊片	冲压车间	冲压机/显微镜/卡尺/立式投影仪	△	产品重点尺寸		设备保养
								▲	端子卡点	▲	端子卡点制程能力
									外观/预断口状态/料带弯曲		
4	◇				成型胶芯/吸盖	成型车间	注塑机/显微镜/卡尺/工具显微镜/卧式投影仪	△	产品尺寸		设备保养
									外观状态	△	成型条件管控
								▲	胶芯Pin孔尺寸	▲	胶芯Pin孔制程能力
								▲	吸盖卡槽尺寸	▲	卡槽尺寸制程能力
5		○			委外电镀端子/焊片	仓库	——		材料发放		材料出库/搬运
6				□	电镀检验	IQC	盐雾测试机/卡尺/烤箱/显微镜/锡炉/回流焊		电镀规格/外观状态		
								△	电镀层附着性/防腐性		
								△	电镀层粘锡性/耐热性		
								△	电镀膜厚		
									包装状态		
7			△		材料入/出库	仓库	——		材料储存		材料入库/搬运
8	◇				胶芯插PIN	组装车间	排插机/显微镜/工具显微镜	△	端子插入尺寸		设备保养
9				□	初检	组装车间	放大镜		外观状态		
10	◇				组装焊片	组装车间	排插机/显微镜/工具显微镜	△	焊片插入尺寸		
11	◇	卧式产品无此工站			组装吸盖	组装车间	自动机		外观状态		
12				□	首件	IPQC	显微镜/工具显微镜/拉力计/电性测试机/烤箱/回焊炉/锡炉	△	端子插入尺寸	▲	平面度制程能力
									外观状态	▲	接点正位度制程能力
								△	端子保持力		设备保养
								△	耐焊热性/电性/沾锡性		
								▲	端子焊脚平面度/接点正位度		
13	◇				折料/入管	组装车间	自动机		外观状态		
14				□	外观全检	组装车间	——		外观状态检验		
								△	Picth状态/接点状态检验		
15				□	平面度检验	组装车间	自动检测机	▲	焊接平面度全检		测试位置点检管理
								▲	接触点正位度全检		设备保养
16				□	终检	FQC	拉力计//回焊炉/锡炉		外观状态	▲	平面度制程能力
								△	端子保持力	▲	接点正位度制程能力
								△	耐焊热性/电性/沾锡性		设备保养
								▲	端子焊脚平面度/接点正位度		
17	◇				包装	组装车间	自动包装机	△	包装要求		设备保养
18				□	包装检验	FQC	剥离力测试机		外观状态		
								△	包装要求		
								△	上盖带剥离力		设备保养
19			△		成品入库	组装车间	——		成品储存		成品入库/搬运
20				□	出货检验	OQC	——		规格尺寸		
								△	端子保持力		
								△	耐焊热性/电性/沾锡性		
21		○			成品出货	仓库	——		成品发放		成品出库/搬运

制成/日期:王涛/2016-5-16　　审核：　王红芳　　核准：　黄斌斌

产品资料

KINGFA® 金发

Vicryst R835

增强液晶聚合物 Reinforced Liquid Crystal Polymer

主要特征 FEATURES	主要应用 APPLICATIONS
• 高强度高刚性 High strength and stiffness • 高耐热性 High heat resistance • 高尺寸稳定性 Enhanced dimensional stability • 低翘曲 Low warpage • 表面优良 Good surface appearance	• 注塑成型 Injection molding • 连接器 Connectors • 其他电子部件 Other E&E articles

性 能[1] Properties	测试标准 Test Standard	测试条件 Test Condition	国际单位 S.I. Unit	典型值 S.I.[1,2] Typical Value
力学性能 Mechanical				
拉伸强度 Tensile Strength	ISO 527-1/-2	10mm/min	MPa	120
断裂拉伸应变 Tensile Strain at Break	ISO 527-/-2	10mm/min	%	3.5
弯曲强度 Flexural Strength	ISO 178	2mm/min	MPa	180
弯曲模量 Flexural Modulus	ISO 178	2mm/min	MPa	12000
悬臂梁缺口冲击强度 Izod Notched Impact Strength	ISO 180	23℃	kJ/m^2	10
热性能 Thermal				
熔点 Melting Temperature	ISO 11357-1/-3	--	℃	355
负荷变形温度 Temperature of Deflection Under Load	ISO 75-1/-2	1.80MPa	℃	285
电性能 Electrical				
体积电阻率 Volume Resistivity	IEC 60093	--	Ω·cm	10^{16}
介电强度 Dielectric Strength	IEC 60243-1	--	kV/mm	40
介电常数 Dielectric Constant	IEC 62562	2.5GHz	--	4.1
介电损耗因子 Dissipation Factor	IEC 62562	2.5GHz	--	0.006
其他 Others				
密度 Density	ISO 1183-1	--	g/cm^3	1.67
增强物含量 Glass Fiber Content	--	--	%	35
模塑收缩率 Molding Shrinkage	ISO 294-4	--	%	0.02/0.4
阻燃等级 Flammability	UL 94	0.10-3.0 mm	--	V-0
灼热丝燃烧指数 GWFI	IEC 60695-2-12	0.10-3.0 mm	℃	960

[1] 数据为典型值，只作为客户使用的参考，不作为品质指标最低值或最高值的保证及其他任何用途的保证。

[2] 不同的颜色性能可能会不同。

KINGFA® 金发

Vicryst R835

典型加工条件 Typical Processing Conditions

		典型值 Start Point	范围 Range
熔体温度 Melt Temp.		350℃	320-360℃
料筒温度 Barrel Zone Temp.	后段, Rear	320℃	310-330℃
	中段, Center	340℃	330-350℃
	前段, Front	360℃	350-370℃
模具温度 Mold Temp.		100℃	90-140℃
加工温度上限 Processing Temp. Limit		400℃	
注塑速度 Injection Speed		低速到中速 Low to moderate	
预干燥 Pre-Dry Requirements		150~180℃, 6~8hr	

以上加工参数仅供参考，可根据不同机型、不同模具以及产品要求，对上述工艺做适当调整。

安全及处理注意事项

客户可向当地的金发科技办事处索取本产品的材料安全数据表（MSDS）。客户从 MSDS 中可得到材料处理、安全和弃置方面的资料以及当地健康和安全法规所需要的资料。下面所述只是一般注意事项，仅适用于本牌号的树脂。用于塑料成型的各类添加剂和加工助剂，以及用于二次加工工序的其它材料有其自身的安全要求，因此必须分别去了解。

本产品在正常条件下使用时，人体吸入、眼部及皮肤接触都没有特别问题。不过，在处理、储存、使用或弃置这些树脂时仍须谨慎小心。工作场所应保持整洁，以避免粉尘聚积。在加工操作中，应尽量避免接触熔融的树脂。

塑料树脂产品在制造过程可能会产生粉尘和气体。对注塑制件进行锯、锉、打磨等操作时产生的粉尘可能会刺激眼睛和上呼吸道。在多尘的生产环境中，建议操作工人使用经有关部门认可的呼吸器或面罩。

按正确操作规程要求，塑料加工区应有良好的通风。塑料在加工过程中超过熔融温度时会释放出或多或少的含有分解物质的烟雾，此类烟雾可能具刺激性。在大多数情况下，一般良好的通风设备便已足够。当有需要时，应使用局部抽气通风方法。

如在工作中接触到的飞扬微粒对眼睛造成伤害，应配戴防化护目镜。处理本树脂时，若有需要，可戴上隔热手套作保护。

一般来说，塑料树脂产品在紫外线作用下可能会有发黄现象，因此产品存储时应避免太阳光直接照射。

金发科技建议用户事先调查自己产品的最终用途，以保证能正确使用金发科技的产品。为保证金发公司的产品不被误用或错用，建议与金发科技业务代表联系。

KINGFA SCI & TECH CO LTD

33 KEFENG RD, SCIENCE CITY, GUANGZHOU HI-TECH, INDUSTRIAL DEVELOPMENT ZONE, GUANGZHOU GUANGDONG 510660 CN

Vicryst R8(gg) (ccc)(r5)

Liquid Crystal Polymer (LCP), furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
NC, BK, WT	0.10	V-0	5	0	130	130	130
	0.20	V-0	4	0	130	130	130
ALL	0.35	V-0	4	0	130	130	130
	3.00	V-0	0	0	130	130	130

Comparative Tracking Index (CTI): 3

Inclined Plane Tracking (IPT): -

Dielectric Strength (kV/mm): -

Volume Resistivity (10^x ohm-cm): -

High-Voltage Arc Tracking Rate (HVTR): -

High Volt, Low Current Arc Resis (D495): -

Dimensional Stability (%): -

(ccc) - Any combinations of any letters excluding a letter "X" and/or any numerals for their special applicaiton may or may not follow

(gg) - Replaced by two digital numbers (30 - 50) to represent 30-50% reinforcement content

(r5) - Virgin and regrind material up to 50% by weight of Natural Color and Black Color have the same V-0 flammability characteristics, HWI, HAI and CTI ratings in the 0.10mm to 3.0mm thickness.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 2010-04-13

Last Revised: 2016-05-10

IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.10	V-0 (NC, BK, WT)
			0.20	V-0 (NC, BK, WT)
			0.35	V-0 (ALL)
			3.00	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-

MATERIAL SAFETY DATA SHEET

According to 91/155/EC

01-Chemical product and company identification

Product name	Vicryst R835
Supplier	Seller
Name	KINGFA SCI.&TECH.CO.,LTD
Address	33 Kefeng Road, Science Town, Guangzhou, China, 510663
Telephone/fax number	+86-20-66818888/+86-20-66814666
Emergency telephone number	+86-4001600143

02-Hazards identification

GHS label element	None
Hazards effect on human health and environment	Does not present any specific hazards if handled in the instruction of proposed use.
Physical and chemical hazards	Dust can form explosive mixture with air. At high temperature of thermal decomposition giving flammable and harmful products, formation of toxic products through combustion.
Specific hazards	None

03-Composition/information on ingredients

LIQUID CRYSTAL POLYMER	63-67%	CAS NO: 60088-52-0
REINFORCEMENT	33-37%	CAS NO: 65997-17-3&14807-96-6
HAZARDOUS INGREDIENTS	None	

04-First aid measure

Eye contact	Not specifically applicable In case of contact with molten product, cool eyes rapidly with plenty of cold water after contact with molten product and seek medical advice seek medical advice immediately.
Skin contact	Not specifically applicable In case of contact with molten product when processing or use, rinse rapidly with plenty of cold water and seek medical advice immediately, as molten product may cause thermal burn. Do not pull solidified product away from skin or do not remove clothing.
Ingestion	Not specifically applicable If vomiting occurs, lower the head to ease vomiting and seek medical advice immediately
Inhalation	Not specifically applicable

	In case of contact with vapors due to over-heating and combustion, move to fresh air, oxygen or artificial respiration provided if needed.

05-Fire-fighting measures

Fire-fighting instructions	Keep people away, isolate fire area and deny unnecessary entry. Cool surroundings with water to localize fire zone. Hand held carbon dioxide or dry chemical water to cool and prevent re-ignition.
Protection of fire-fighter	Fire mask, self-contained breathing apparatus and wear protective clothing, etc.
Suitable distinguishing media	Extinguishing agents as water, dry powder, Carbon dioxide, etc.
Not suitable distinguishing media	None
Specific hazards	Extended inhalation of such above is hazardous, according to Section 10.

06-Accidental release measures

Personal precaution	Do not breathe vapors/dust. Sweep up to prevent hazard slipping.
Environmental protection	Do not release into the environment. Do not let the product enter into drains.
Clean-up methods	Recover the product. Recycle or incinerate at an approved waste disposal site.

07-Handling and storage

Handling	Follow instructions on label and processing guide. Prevent from fire around handling area. Avoid accumulation of static charges during transfers in metallic systems, and wear a mask to avoid dust formation. Provide adequate ventilation properly. Dust explosion when secondary processing.
Storage	Keep the product at a cool dry and ventilated place, heat and fire are inhibited around storage area. Protect from direct sunlight, rain and violent temperature fluctuation.

08-Exposure controls and personal protection

Engineering controls	When processing, general or local exhaust ventilation systems in the work place is recommended to control the concentration of

MATERIAL SAFETY DATA SHEET

According to 91/155/EC

	vapors and fumes below exposure limits. As condensed processing vapors and fume may cause inhalation hazards and a fire and toxic hazards. Ensure ventilation of work areas and extraction of dust or vapors likely to be given off during conversion operations.
Exposure limits	Not determined
Personal protection equipment	
Eye/face protection	Wear safety glasses for general purpose. Wear chemical goggles for cleaning molding machines.
Hand protection	Wear protective gloves when necessary.
Skin and body protection	Wear protective clothing (product handled in molten state).
Respiratory protection	In case of dust formation, wear a dust mask. In case of insufficient ventilation, wear suitable respiratory equipment.

09-Physical and chemical properties

Appearance	Solid
Form	Pellets
Colour	Opaque
Odour	None to very slightly
Melting point/range	355℃
Decomposition temperature	>400℃
Specific gravity	>1.0
Solubility in water	Insoluble

10-STABILITY AND REACTIVITY

Chemical stability	Stable at normal use and storage condition.
Conditions to avoid	None under the normal condition of handling, use and storage.
Hazardous decomposition products	Carbon monoxide, hydrocarbons and carbon dioxide, etc.

11-Toxicological information

Based on our experience and information available, no adverse health effects as expected of handled as recommended with suitable precautions for designed use.
If necessary, contact emergency number shown in Section 1.

12-Ecological information

Ecotoxity	The product is water insoluble. No adverse hazardous effect on plants, animals or microorganisms. Do not allow to be released into the environment.

MATERIAL SAFETY DATA SHEET

According to 91/155/EC

	To inhibit disposal of the waste to the ocean and water sources.
	To avoid being taken by ocean species or birds.
Persistence potential	Persisting

13-Disposal considerations

Recycle is better than disposal.

Disposal as controlled incineration or landfill is to be in accordance with local, state or national laws and regulations concerning health and pollution.

14-Transportation information

ADR/RID	Not regulated
AND/ADNR	Not regulated
IMDG	Not regulated
IATA	Not regulated

Consult KINGFA's safety department for any further information.

15-Regulationary information

Not subject to label regulation.

SAFETY DATA SHEETS	ISO 11014:2009(E)

16-OTHER INFORMATION

Use	
Recommended	Injection or extrusion
Prohibited	For special application as in medicine, surgery, or the food etc.
	Obtain further information from the supplier.

The information contained in this MSDS is accurate and true based on our current knowledge at the time of publishing, and may be subject to revision without informing in advance as new knowledge become available, with the only purpose of providing as safe as possible during intended use, handling, transportation, and storage of the product. However this will not constitute a guarantee for any specific products features and should not establish a legally valid contractual relationship. The attention of the users is drawn to the possible risks incurred by using the product for any other purposes other than that for which it was intended. It is the sole responsibility of the users to take all precautions required in handling the product.

MSDS prepared by: KINGFA SCI.&TECH. CO., LTD
TEL: +86-20-66818888

检测报告
Test Report

报告编号 A2220508812102001E
Report No. A2220508812102001E

报告抬头公司名称 Company Name shown on Report 金发科技股份有限公司
KINGFA SCI. & TECH.CO., LTD

地 址 Address 广州市高新技术产业开发区科学城科丰路33号
NO.33 KEFENG ROAD，SCIENCE CITY，GUANGZHOU HI-TECHINDUSTRIAL DEVELOPMENT ZONE，GUANGZHOU

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称 Sample Name	Vicryst R835 Vicryst R835
样品接收日期 Sample Received Date	2022.11.11 Nov. 11, 2022
样品检测日期 Testing Period	2022.11.11-2022.11.16 Nov. 11, 2022 to Nov. 16, 2022

检测要求 根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP，BBP，DEHP，DIBP)，六溴环十二烷(HBCDD)，氟(F)，氯(Cl)，溴(Br)，碘(I)进行测试。

Test Requested As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Hexabromocyclododecane (HBCDD), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I) in the submitted sample(s).

检测依据/检测结果 Test Method/Test Result(s) 请参见下页。
Please refer to the following page(s).

主 检 Tested by 张绍祥
批 准 Approved by 郑晴涛
郑晴涛
技术经理 Technical Manager

审 核 Reviewed by 鲁艳
日 期 Date 2022.11.16

No. R177731319

检测检测认证集团股份有限公司
Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China
广东省深圳市宝安区新安街道兴东社区华测检测大楼

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结论 Conclusion

测试样品 Tested Sample	依据标准/指令 According to standard/directive	结果 Result
提交样品 Submitted Sample	欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	符合 PASS

****

符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。
PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

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检测依据 Test Method

测试项目 Test Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017和/或IEC 62321-5:2013测试总铬含量 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
六溴环十二烷 Hexabromocyclododecane (HBCDD)	IEC 62321-9:2021	GC-MS
氟 Fluorine (F)	参考EN 14582:2016 Refer to EN 14582:2016	IC
氯 Chlorine (Cl)	参考EN 14582:2016 Refer to EN 14582:2016	IC
溴 Bromine (Br)	参考EN 14582:2016 Refer to EN 14582:2016	IC
碘 Iodine (I)	参考EN 14582:2016 Refer to EN 14582:2016	IC

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
铅 Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
多溴联苯 Polybrominated Biphenyls (PBBs)			
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg	

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
六溴环十二烷 Hexabromocyclododecane (HBCDD)	N.D.	20 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
氟 Fluorine (F)	106 mg/kg	10 mg/kg
氯 Chlorine (Cl)	N.D.	10 mg/kg
溴 Bromine (Br)	N.D.	10 mg/kg
碘 Iodine (I)	N.D.	10 mg/kg

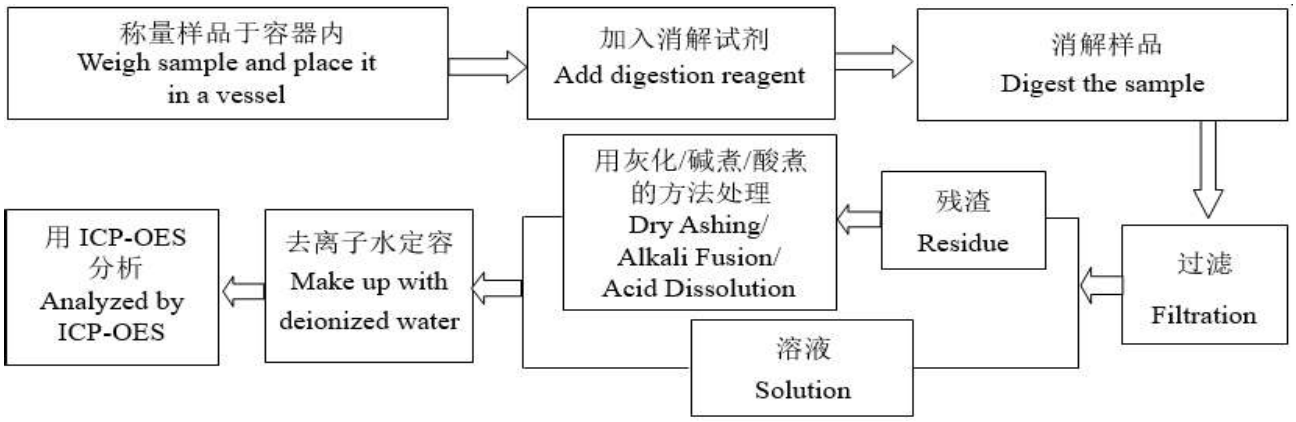
样品/部位描述 本色塑料颗粒
Sample/Part Description Natural color plastic grains

备注: **对于检测铅，镉，汞之样品已消解完全。**
-N.D. = 未检出（小于方法检出限）
-mg/kg = ppm = 百万分之一
-1000 mg/kg = 0.1%

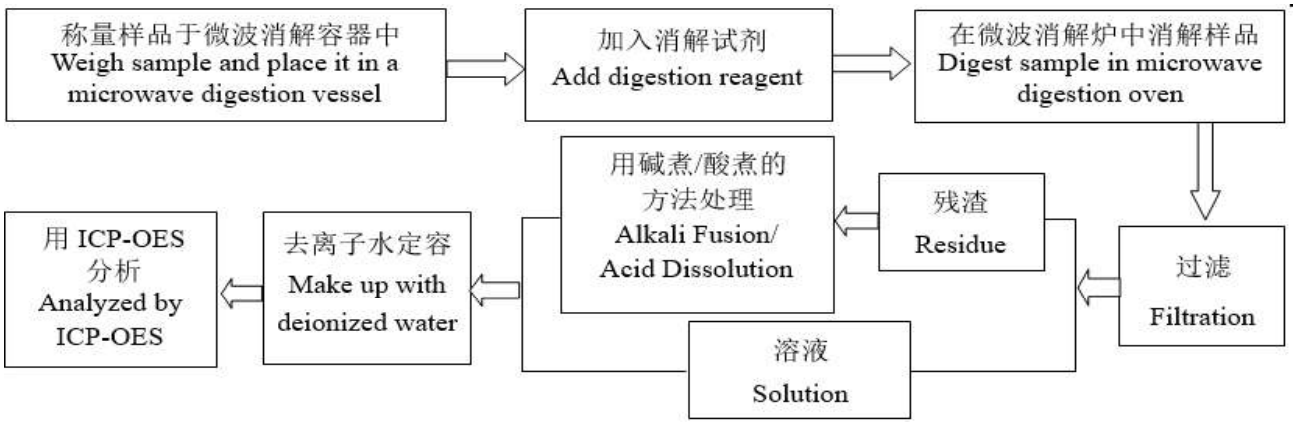
Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%

检测流程 Test Process

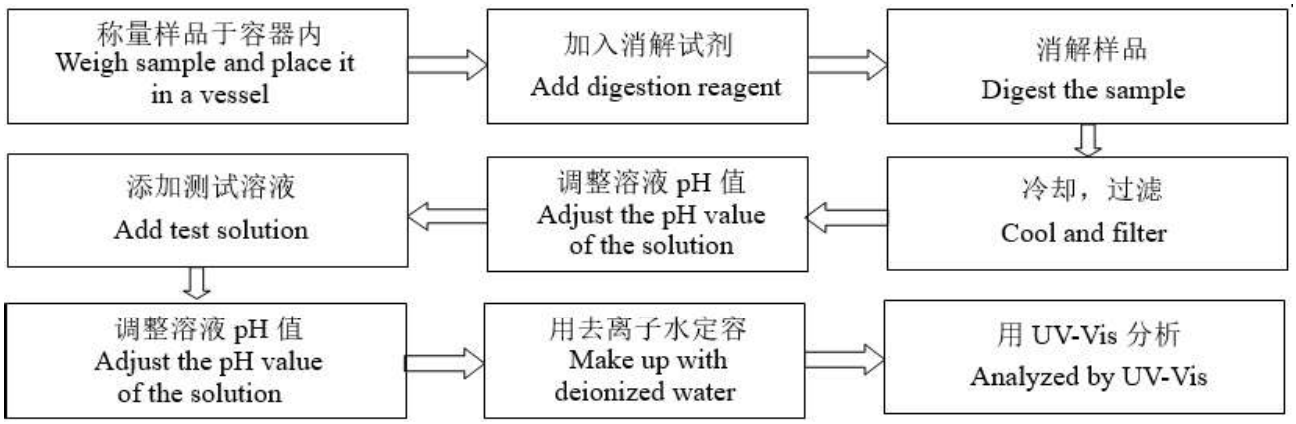
1. **铅(Pb)，镉(Cd)，铬(Cr)**
   Lead (Pb), Cadmium (Cd), Chromium (Cr)



2. **汞(Hg)**
   Mercury (Hg)



3. **六价铬(Cr(VI))**
   Hexavalent Chromium (Cr(VI))



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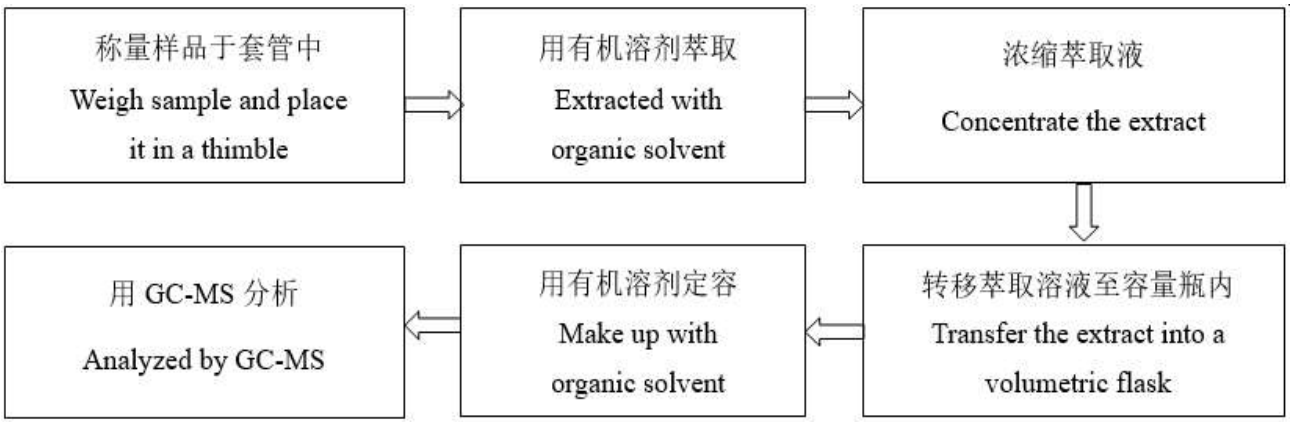
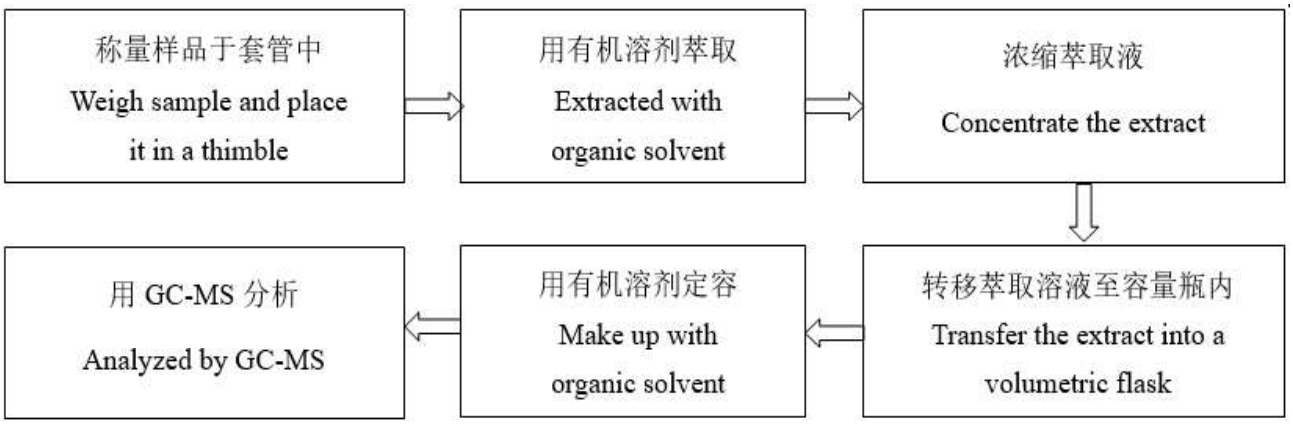
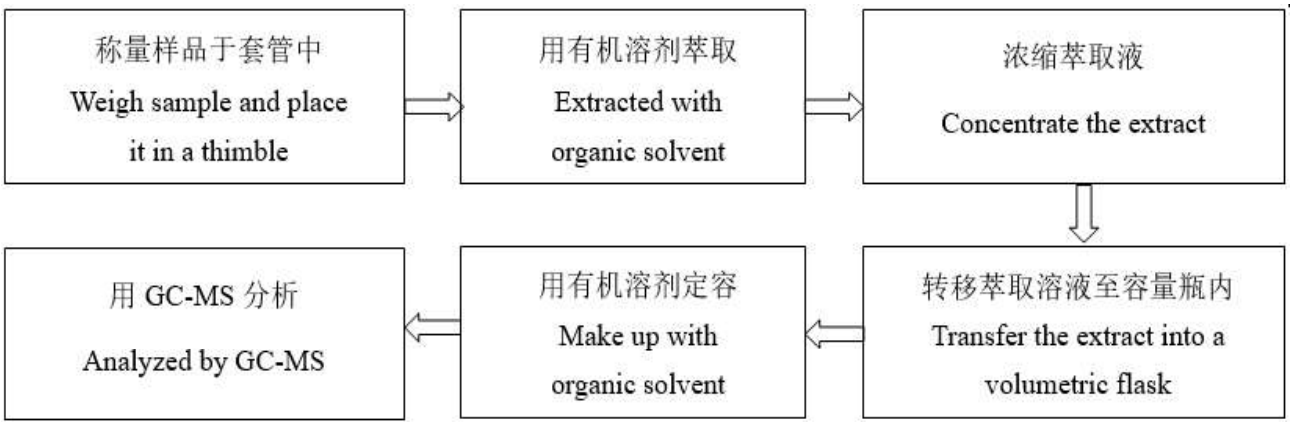
4. 多溴联苯(PBBs)， 多溴二苯醚(PBDEs)
Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



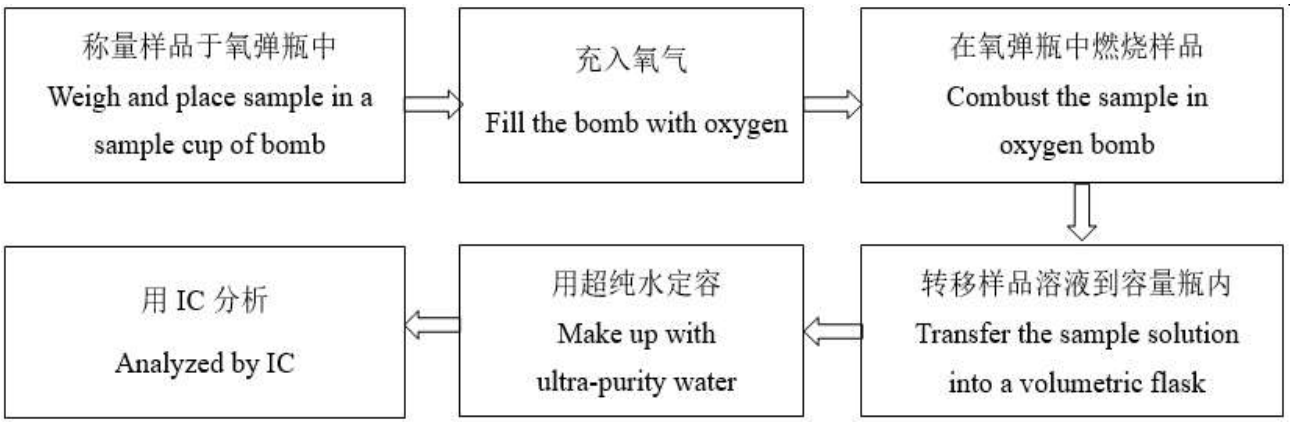
5. 邻苯二甲酸酯(DBP， BBP， DEHP， DIBP)
Phthalates (DBP, BBP, DEHP, DIBP)



6. 六溴环十二烷(HBCDD)
Hexabromocyclododecane (HBCDD)



7. 氟(F)， 氯(Cl)， 溴(Br)， 碘(I)
Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



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样品图片
Photo(s) of the sample(s)

声明Statement：

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效；
   This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI未核实其真实性；
   The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn’t verified;
3. 本报告检测结果仅对受测样品负责；
   The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 未经CTI书面同意，不得部分复制本报告；
   Without written approval of CTI, this report can’t be reproduced except in full;
5. 如检测报告中的英文内容与中文内容有差异，以中文为准。
   In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

报告结束
*** End of report ***

温州元鼎铜业有限公司　产品质量证明书

产品技术标准：GB/T2059-2017

注:本证明书请妥善保管，如对产品质量有异议，
请与本公司联系，我们将竭诚为您服务

牌号	批号	规格	状态	重量（kg）	数量
H62	211019A16	0.2*200	Y	—	—

I 化学成分（%）：

Cu	Zn	Pb(PPM)
61.13	余量	47.5
Sb	Ni	Fe(PPM)
0.0013	0.0056	132.5
Bi	As	S
0.00025	0.0017	0.0022
Cd	杂质总和	
0	—	

II 物理性能指标：

抗拉强度σb(MPa)	延伸率δ10(%)
—	—
硬度值 HV	杯突值（mm）
155.9	—
导电率，%IACS	

III 几何尺寸偏差与表面质量：

厚度公差（mm）	宽度公差（mm）	表面质量
-0.01	—	—

备注	

签证部门

温州元鼎铜业有限公司 产品质量证明书专用章

技术质量部
（盖章）

检验员:01

单证号:

公司地址：浙江省温州市龙港市世纪大道4555号
电话：0577-68001888
传真：0577-68001889
邮编：325802

日期：2021年11月13日

温州元鼎铜业有限公司

物资安全资料表

MSDS　H62

温州元鼎铜业有限公司高精度板带公司物质安全资料表编号：	MCL002
版次：	1
编制日期：	2013-5-1

1、 物品与厂商资料：

物品名称：	黄铜带		
物品牌号：	H62		
化学名称：	Cu-Zn 金属合金		
类别：	金属混合物		
制造商或供应商名称：	温州元鼎铜业有限公司		
制造商或供应商地址：	浙江省温州市苍南县龙港镇城东工业区		
制造商或供应商电话：	0577-68001888	传真：	0577-68001889

2.成份辨认资料：

成分	化学式	含量（%）	化学文摘社登记号码（CAS.NO.）
铜	Cu	60.5-63.5	7440—50—8
铅	Pb	0.08	7439—92—1
铁	Fe	0.15	7439—89—6
锌	Zn	余量	7440—66—6
镍	Ni	0.5	7440—02—0

备注：本产品在固体时不具危险性，其粉尘及烟雾时具有危险性。

3、危险辨认资料

警告：
长时间暴露与粉尘及烟雾的工作环境下，对眼睛、呼吸系统、皮层会造成刺激伤害，必须佩带保护器具，包括护目镜、适当衣物、必要保护全身体。身体被接触之部位，必须彻底清洗干净。

种类的名称：	铜、锌之混合物
危险标示类别：	金属粉尘或烟雾将对皮肤、眼睛造成刺激性且对肺具有毒性，但金属成品本身不具有危害性。
危险级数（粉尘及烟雾）：	健康：1　可燃：0（0 为最低、4 为最高）

4、急救措施

对于粉尘及烟雾危害：

眼睛接触：	以大量清净水冲洗上下眼皮内部（至少 15 分钟），若眼睛被刺激不适者，立即送医检查。
食入时：	大量喝水并催吐，迅速送医检查。
皮肤接触：	以清水清洗干净。
吸入时：	送至通风良好较阴凉处休息，以毛布保暖，严重者迅速送医院检查诊断。

5、火灾及爆炸危害资料：

可燃性资料：

爆炸性：	无
可燃性：	无
燃烧性：	无
闪火性：	不适用
自然性：	不适用

灭火剂：

灭火方式：使用灭火剂于材料表面即可

消防建议：

注意粉尘可能会导致爆炸或产生可燃烧气体

6、泄漏处置

本产品在加工时产生粉尘时，有可能产生保证，必须将火源移除，也惟有粉尘型态才可能产生泄漏，所以必须装社吸尘装置，过滤空气中的粉尘，以降低其粉尘浓度。	
泄漏于空气中：	不适用
泄漏于水中：	不适用
泄漏于地面中：	不适用

7、取用及储运方式：

取用注意事项：

轧延产品的端面容易割伤皮肤，应小心取用。 切削加工时会产生粉尘，所以一定要小心，眼睛、皮肤及呼吸应佩带保护器具。 要注意粉尘不可泄漏到空气中去。 需注意产品有翻倒的危险，容易造成压伤，在吊运过程中要十分注意。 打包带剪除时，要小心其末端会弹起，容易对身体、皮肤及眼睛造成割伤。 衣物或器具上的粉尘应用水洗掉或者用吸尘器清洁，而不能用拍打或其他方式处理。

储存条件：

仓库储存最高容许温度：无 避免防止在潮湿或碱性物质或酸/碱性气体的场所。

8、人员暴露防护措施

Cu 暴露标准		OSHA（PEL）		ACGIH（TLV）	
		ppm	Mg/m^3	ppm	Mg/m^3
	烟雾	无	0.1	无	0.2
	粉尘	无	1	无	1
Zn 暴露标准		OSHA(PEL)		ACGIH(TLV)	
		ppm	Mg/m^3	ppm	Mg/m^3
	粉尘	无	无	无	无
呼吸保护：	长时间暴露于粉尘及烟雾的工作环境下，需要呼吸保护器具，佩带 NIOSH 认证防护口罩。				
通风防护	工作场所中，若是会产生烟雾及粉尘时，必须要有通风设施及集尘装置，且工作中不可饮食及抽烟。				
眼睛及皮肤保护：	需要佩带护目镜、防护手套以防割伤。				
人员保护：	作业时应穿戴合适的工作服及安全鞋。				

9、物理及化学性质：

外观：	黄色的固态金属
熔点：	1020-1060℃
沸点：	无资料
比重：	8.66
蒸汽压：	不适用
溶解度：	不适用
25℃时的 PH 值：	不适用

10、安全性及反应性资料：

非活性物质

11、毒性资料：

来源途径：

粉尘：食入、皮肤接触、吸入、眼睛接触 烟雾：吸入、眼睛接触、皮肤接触 本产品的成品不具毒性

动性毒性：本合金产品不具毒性
其单一成分的毒性说明如下（仅供参考）： 皮肤腐蚀性：无此资料 刺激性（对眼睛、皮肤）：铜产品会产生接触性皮炎，锌对眼睛有危害性。 急性毒性：铜的粉末不小心误食，会有急性中毒症状----呕吐、无力感及胃疼；粉尘吸入过多，会有胸疼、发烧等症状。 粉尘、烟雾会让有气喘、肺气肿的病患者病情加重。

12、生态资料：

本产品的成品对生态不具毒性

分解性：无资料
蓄积性：无资料
突发性：本产品没有资料显示会造成突发性
鱼毒性：水中，尤其在软水中，铜的浓度达到 0.015~3.0mg/1 时，曾有报告说会对许多种类的鱼、甲壳类的动物及软体动物、浮游生物等有毒性。

13、废品处理

本主品不属于危害性废弃物，当必须丢弃时可以委托回收商予以回收再生处理。

14、运输资料

运送时不要直接与水接触，并且主要会有滑落、翻落的危险发生

15 法规资料

通常无特定法令规定，但是在会产生粉尘的场所必须遵守劳工安全卫生法。劳工作业环境空气中有害物质浓度要在容许浓度标准之内。

16、其他资料

本 MSDS 内容资料应被所有使用、运送储存或暴露于本产品的公司人员充分了解与接受并其应用于使用、加工、制程或管理与本产品有关的作业规定上。本 MSDS 资料内容在编订时可能已经将最新的资料纳入，但并不对所有内容予以任何保证。

检测报告

编号：NGBEC22001696602　　**日期：**2022 年 06 月 06 日　　

客户名称　：　温州元鼎铜业有限公司

客户地址　：　浙江省温州市龙港市世纪大道 4555 号

样品名称　：　黄铜

型号　：　C2800（H62）

以上样品及信息由客户提供。

SGS 工作编号　：　NP22-002860

样品接收时间　：　2022 年 05 月 25 日

检测周期　：　2022 年 05 月 25 日 ~ 2022 年 06 月 02 日

检测要求　：　根据客户要求检测

检测方法　：　见后续页。

检测结果　：　见后续页。

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)、邻苯二甲酸丁苄酯(BBP)、邻苯二甲酸二(2-乙基已基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP))的检测结果符合欧盟 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宁波分公司
授权签字

Ashley Zhang 张倩倩
批准签署人

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检测结果：

检测部件外观描述:

样品序号	样品编号	SGS 样品 ID	样品描述
SN1	A1	NGB22-0016966-0001.C001	金色金属

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+AMD1:2017， 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	A1
镉 (Cd)	100	mg/kg	2	ND
铅 (Pb)	1000	mg/kg	2	47
汞 (Hg)	1000	mg/kg	2	ND
六价铬(Cr(VI))▼	-	μg/cm²	0.10	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
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

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检测项目	限值	单位	MDL	A1
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
https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LA NG_ID:1258637,25
(2) ▼ = a. 当六价铬的浓度高于0.13 μg/cm²时，样品为阳性，即含有六价铬；
b. 当六价铬的浓度为ND(低于0.10 μg/cm²)时，样品为阴性，即未检测到六价铬；
c. 当六价铬的浓度介于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铬，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，样品的六价铬检测结果仅能代表检测时样品含六价铬的状态。

除非另有说明，否则本检测报告中所示的检测结果仅对来样负责。本报告未经本公司书面许可，不可部分复制。
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。 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。

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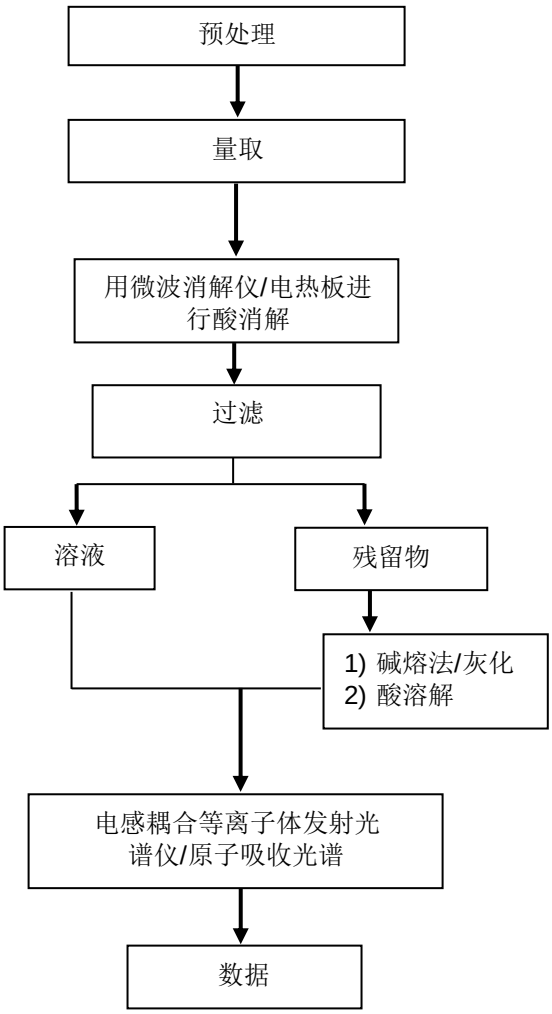
附件

元素(IEC62321) 检测流程图

1) 样品按照下述流程被完全消解



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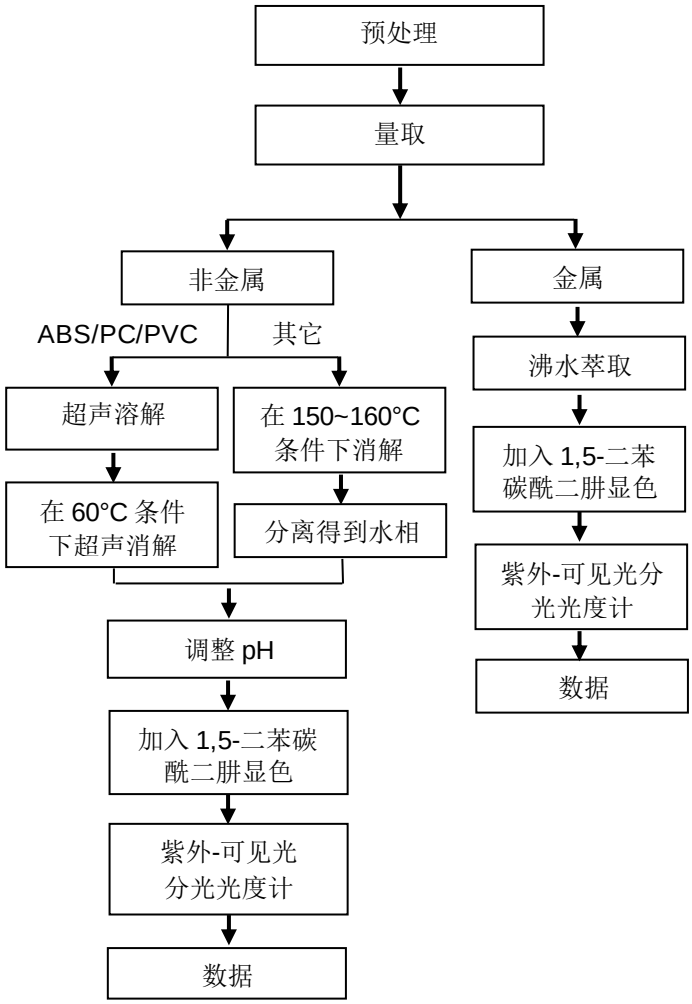
附件

六价铬检测流程图



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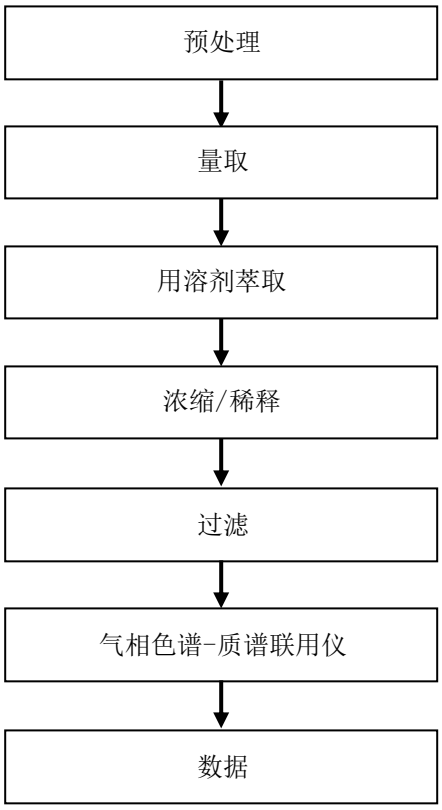
附件

Phthalates 检测流程图



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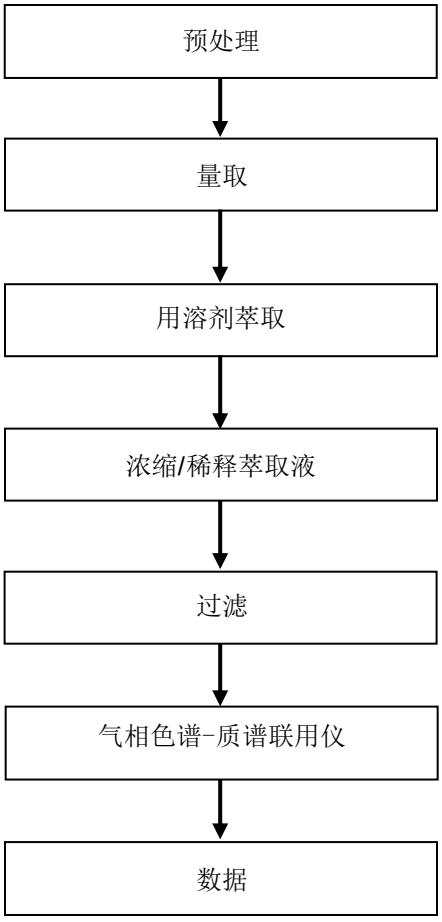
附件

PBBs/PBDEs 检测流程图



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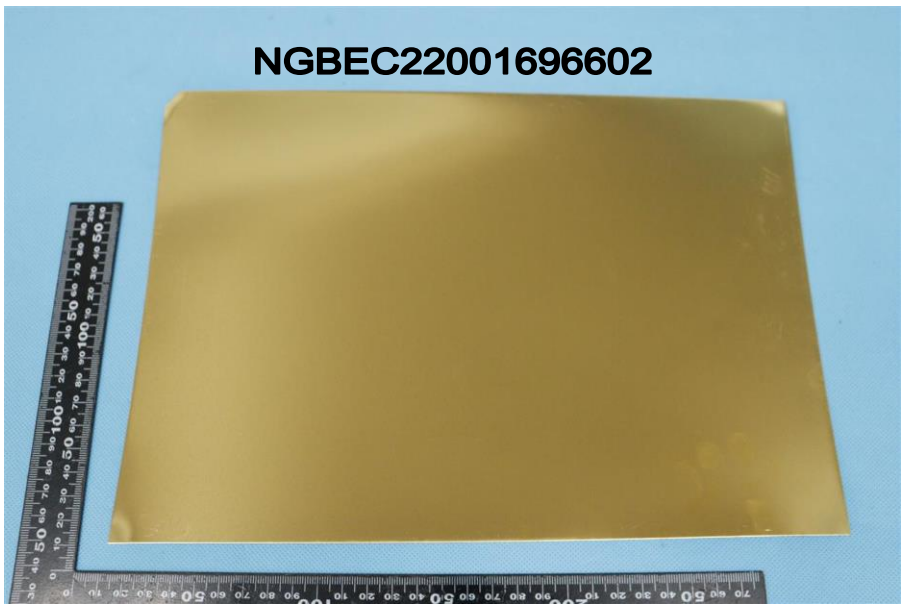
样品照片：



NGB22-0016966-0001.C001

此照片仅限于随 SGS 正本报告使用

报告结束

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浙江新城南表面处理工程有限公司 ZHE JIANG NEW CHENGNAN SURFACE TREATMENT ENGINEERING CO., LTD		所属单位 Department	电镀 Plating	版本 Edition	03
				日期 Date	2019.09.01
主题 Subject	镀锡层SDS资料 Tin coating SDS data	制定部门 Formulating Department	工程部 Engineering Department	页次 Page No.	共3页

序号 No.	主要内容 content	详细内容 details
1	物品与厂商资料 Item name and manufacturer's information	1、物品名称： 电镀锡 Item name:Tin 2、制造商名称地址：乐清市盐盘环保工业园C区-C7 Manufacturer's address:Park C-C7 environmental protection industrialPark C-C7 .yueqing 3、联络电话/传真：0577-57153333/0577-57157822 Tel:13706777378
2	危险性描述 Description of danger	临床上均出现恶心、呕吐、腹泻等急性胃肠炎症状。锡尘肺发.临床上少有咳嗽、咳痰、胸闷等症状，多数患者无肺功能改变。 Clinically, acute gastroenteritis symptoms such as nausea, vomiting and diarrhea were found. Tin pneumoconiosis. Clinical cough, sputum, chest tightness and other symptoms, most patients without pulmonary function changes.
3	成分辨识资料 Component identification data	

含有物质 Contain substance	CAS NO.	含有率%Rate of%
Sn	7440-31-5	99.99
As	7440-38-2	0.0005
Fe	7439-89-6	0.0025
Cu	7440-50-8	0.0015
Pb	7439-92-1	0.0003
Bi	7440-69-9	0.0002
Sb	7440-36-0	0.0025
Cd	7440-43-9	0.0003
Zn	7440-66-6	0.0017
Al	7429-90-5	0.0005

4	急救措施 First aid measures	• 吸入：脱离现场至空气新鲜处。如呼吸困难，给输氧，就医。 Inhalation: out of the scene to the fresh air. If the breathing is difficult, give oxygen, go to the doctor. •皮肤接触：脱去污染的衣着，用肥皂水和清水彻底的冲洗皮肤。 Skin contact: remove contaminated clothing and rinse skin thoroughly with soapy water and clear water. •眼睛接触：提起眼脸，用流动清水或生理水冲洗，就医。 Eye contact: lift your eyes and rinse with flowing or physiological water for medical treatment. • 食入：饮足量温水，催吐，就医。 Feed in: drink a full amount of warm water, vomiting, medical treatment

5	消防措施 Fire protection measures	适用灭火剂：不需要 Application of fire extinguishing agent: no need 灭火时可能遭遇之特殊危害：不易燃烧 Fire hazards may be encountered: not easy to burn. 特殊灭火程序：无 Special fire extinguishing procedures: no 消防人员之特殊防护设备：无 Special protective equipment for fire fighters: no	
6	泄漏的应急措施 Emergency measures for leakage	个人应注意事项：无The individual attention: no 环境注意事项：无Environmental precautions: no 清理方法：无Clean up methods: no	
7	操作处置与储存方法 Operation disposal and storage method	处置：常规处置办法Disposal: conventional treatment 储存：温度5-36℃，湿度＜70％RH条件下储存 Storage: at temperature of 5-36℃, humidity below 70%RH	
8	接触控制与个体防护 Contact control and individual protection	个人防护设备：Personal protective equipment: ·呼吸防护：不需要Respiratory protection: no need ·手部防护：戴手套接触Hand protection: Wear gloves ·眼睛防护：不需要Eye protection: no need ·皮肤及身体防护：不需要Skin and body protection: no need 卫生措施：无Health measures: no	
9	物理与化学特性 Physical and chemical properties	物质状态：固态 State of substance: solid state 颜色：银白Color: silver white PH值：无PH: no 自燃温度：常温稳定 Spontaneous combustion temperature: constant temperature stability	形状：方形和半球形 Shape: square and hemispherical 气味：无Smell: no 沸点/沸点范围：无 Boiling point / boiling point range: no 爆炸界限：无 Limit of explosion: no
		熔点：232℃Melting point: 232℃ 分配系数(正辛醇/水）：无资料 Distribution coefficient (octanol / water): no data	易燃性：无 Flammability: no 挥发速率：无资料 Volatilization rate: no data
10	安全性与反应性 Safety and reactivity	安定性：十分安定Stability: very stable 特殊状况下可能之危害反应：不需要 Possible damage responses under special conditions: no 应避免之状况：不需要The situation should be avoided: no need 应避免之物质：不需要The substance that should be avoided: no nee 危害分解物：无Harmful decomposer: no	

11	毒性资料 Toxicity data	急毒性：无Acute toxicity: no 局部效应：无Local effect: no 致敏感性：无Sensitivities: no 慢毒性或长期毒性：无Slow or long-term toxicity: no 特殊效应：无Special effects: no
12	环境影响 environmental effect	可能之环境影响/环境流布：对水体可造成污染,需进行处理排放. Possible environmental impacts / environmental spread: water pollution may be caused and disposal is needed.
		生态毒性：无资料。Ecotoxicity: no data.
		持久性及降解性：无资料。Persistence and degradability: unknown
		生物蓄积性：无资料。Bioaccumulation: no data.
		土壤中之流动性：无资料。Fluidity in the soil: no data.
		其他不良效应：无资料。Other adverse effects: no data.
13	废弃处置方法 Discarded disposal method	废弃处置方法：废水处理. Waste disposal method: waste water treatment.
14	装运要点 Main points of shipment	运输过程中要确保产品不倒塌、不坠落、不损坏，防止产品刮伤、碰伤等，严禁与氧化剂，酸类、食用化学品等混装混运，运输途中应防暴晒、雨淋。车辆运输完毕建议进行彻底清扫。 In the course of transportation, we should ensure that products do not collapse, fall, not damage, prevent products from scratching and bruising and so on. They are strictly prohibited from mixing and mixing with oxidizing agents, acids, food chemicals and so on. The proposal of vehicle transportation is thoroughly cleaned up.
15	法规资料 Legal information	化学危险物品安全管理条例（1987年2月17日国务院发布），化学危险物品安全管理条例实施细则（化劳发「1992」677号），工作场所安全使用化学平规定（「1996」劳动部发423号）等法规，针对化学危险品的安全使用、生产、储存、运输、装卸等方面均作了相应规定。 Regulations for the safety management of chemical hazardous materials (issued by the State Council in February 17, 1987), detailed rules for the implementation of the regulations on the safety management of hazardous chemicals (「1996」No. 677), the safe use of chemical regulations in the workplace (「1996」, the Ministry of labour No.423), for the safe use, production and storage of chemical dangerous goods Transportation, loading and unloading are also stipulated.
16	其它资料 Other information	无 No

核准	叶岳建	审核	胡海平	制作	沈丹丹

检测报告
Test Report

报告编号 A2230039325101001E
Report No. A2230039325101001E

报告抬头公司名称 Company Name shown on Report
乐清市新城南表面处理工程有限公司
YUEQING XINCHENGNAN SURFACE TREATMENT ENGINEERING CO., LTD

地 址 Address
乐清市经济开发区环保园区C区-C7
ZONE C-C7, ENVIRONMENTAL PROTECTION PARK, YUEQING ECONOMICDEVELOPMENT ZONE

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称	亮锡镀层
Sample Name	Bright tin coating
样品型号	LD-01
Part No.	LD-01
材料名称	CuSn
Material	CuSn
供应商	乐清市新城南表面处理工程有限公司
Supplier	YUEQING XINCHENGNAN SURFACE TREATMENT ENGINEERING CO., LTD
样品接收日期	2023.02.08
Sample Received Date	Feb. 8, 2023
样品检测日期	2023.02.08-2023.02.13
Testing Period	Feb. 8, 2023 to Feb. 13, 2023

检测要求
根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)，氟(F)，氯(Cl)，溴(Br)，碘(I)，全氟辛烷磺酸(PFOS)，全氟辛酸(PFOA)进行测试。

Test Requested
As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA) in the submitted sample(s).

检测依据/检测结果 Test Method/Test Result(s)
请参见下页。
Please refer to the following page(s).

批 准
Approved by

陈凯敏
实验室经理 Lab Manager

日 期
Date
2023.02.13

上海华测品标检测技术有限公司
Centre Testing International Pinbiao(Shanghai) Co., Ltd.
上海市闵行区万芳路1351号
No.1351, Wanfang Road, Minhang District, Shanghai, China

检测报告
Test Report

****

结论 Conclusion

测试样品 Tested Sample	依据标准/指令 According to standard/directive	结果 Result
提交样品 Submitted Sample	欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	符合 PASS

****

符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。
PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

检测报告
Test Report

检测依据 Test Method

测试项目 Test Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	参考IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	参考IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	参考IEC 62321-4:2013+AMD1:2017 CSV Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
氟 Fluorine (F)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
氯 Chlorine (Cl)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
溴 Bromine (Br)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
碘 Iodine (I)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
全氟辛烷磺酸 Perfluorooctane Sulfonates(PFOS)	参考US EPA 3550C:2007 & US EPA 8321B:2007* Refer to US EPA 3550C:2007 & US EPA 8321B:2007*	LC-MS-MS/LC-MS
全氟辛酸 Perfluorooctanoic Acid(PFOA)	参考US EPA 3550C:2007 & US EPA 8321B:2007* Refer to US EPA 3550C:2007 & US EPA 8321B:2007*	LC-MS-MS/LC-MS

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL	限值 Limit
铅 Lead (Pb)	49 mg/kg	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D. ▼	0.10 μg/cm² (LOQ)	1000 mg/kg

测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL	限值 Limit
多溴联苯 Polybrominated Biphenyls (PBBs)			
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg	

测试项目 Tested Item(s)	结果 Result 001	方法检出限 MDL	限值 Limit
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg	

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
氟 Fluorine (F)	N.D.	1 μg/cm²
氯 Chlorine (Cl)	N.D.	1 μg/cm²
溴 Bromine (Br)	N.D.	1 μg/cm²
碘 Iodine (I)	N.D.	1 μg/cm²

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS)	N.D.	0.5 μg/m²

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
全氟辛酸 Perfluorooctanoic Acid (PFOA)	N.D.	0.5 μg/m²

CTI 华测检测

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样品/部位描述Sample/Part Description

序号 No.	CTI样品ID CTI Sample ID	描述 Description
1	001	银色镀层 Silvery plating

备注: **对于检测铅，镉，汞之样品已消解完全。**

-N.D. = 未检出 (小于方法检出限或定量限)

-mg/kg = ppm = 百万分之一

-1000 mg/kg = 0.1%

-LOQ = 定量限，六价铬的定量限为0.10 μg/cm²

-▼六价铬浓度小于0.10 μg/cm²，样品未检出六价铬。

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL or LOQ)

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm²

-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10 μg/cm². The coating is considered a non-Cr(VI) based coating.

注释: **本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。**

“*”表示该方法不在CNAS认可范围内。

Note: **The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.**

“*”indicates the method(s) is (are) not in CNAS accreditation scope.

检测报告
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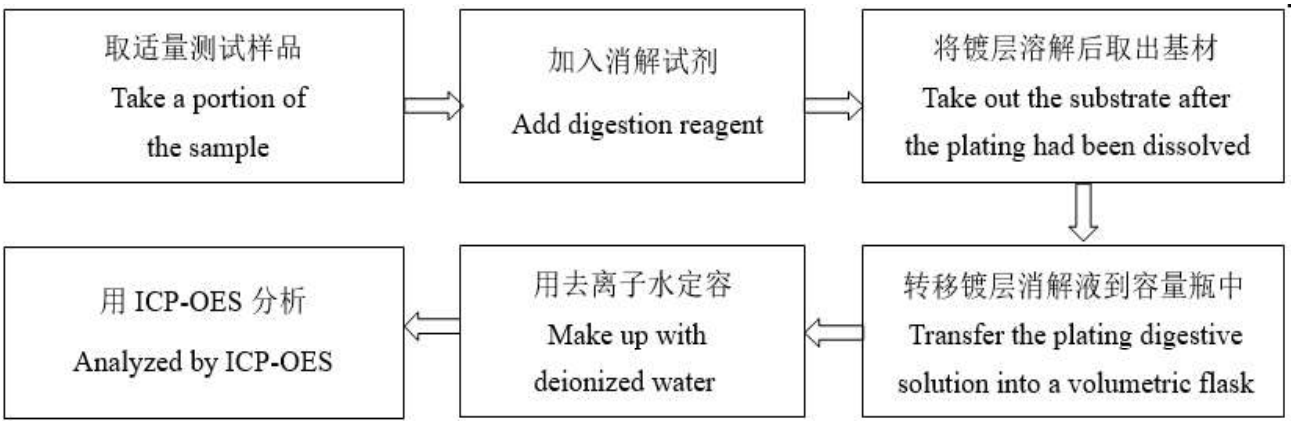
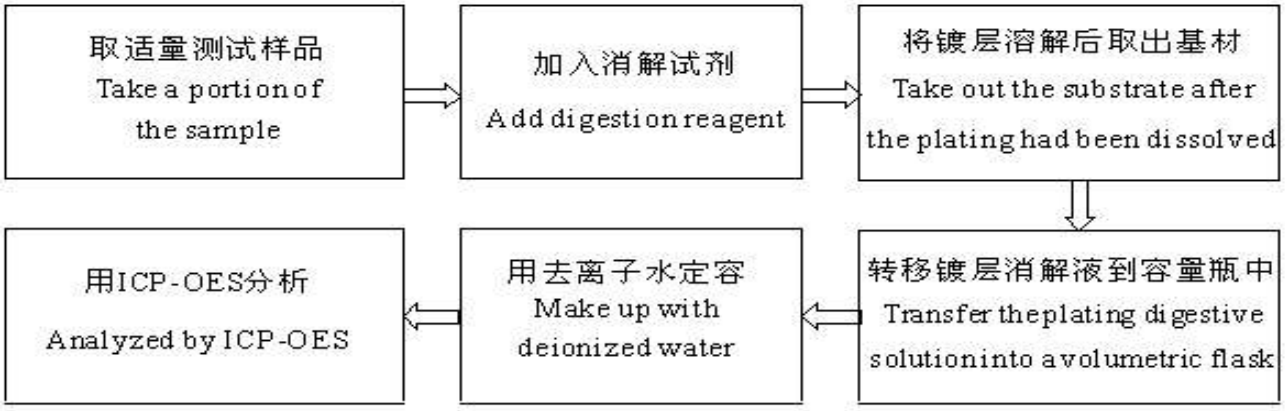
检测流程 Test Process

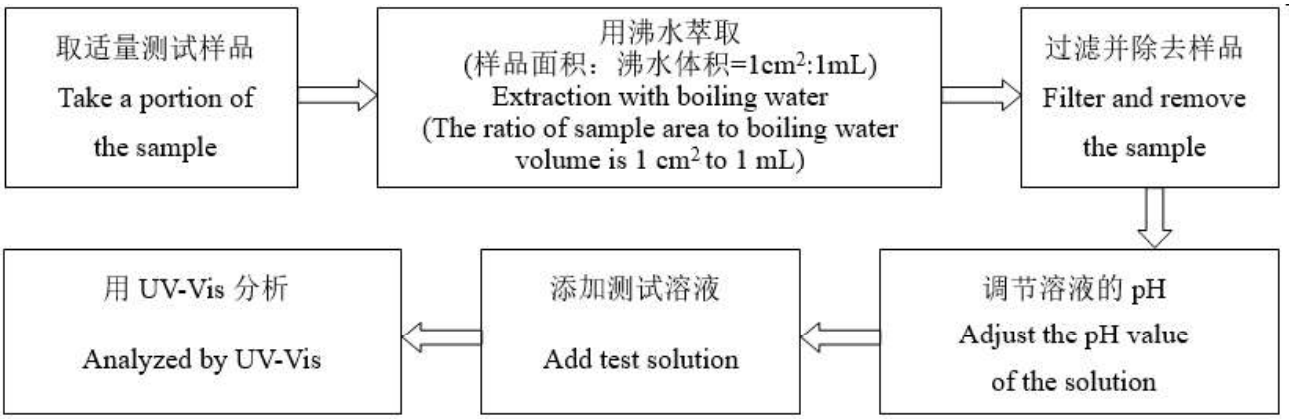
1. **铅(Pb)， 镉(Cd)**
   Lead (Pb), Cadmium (Cd)



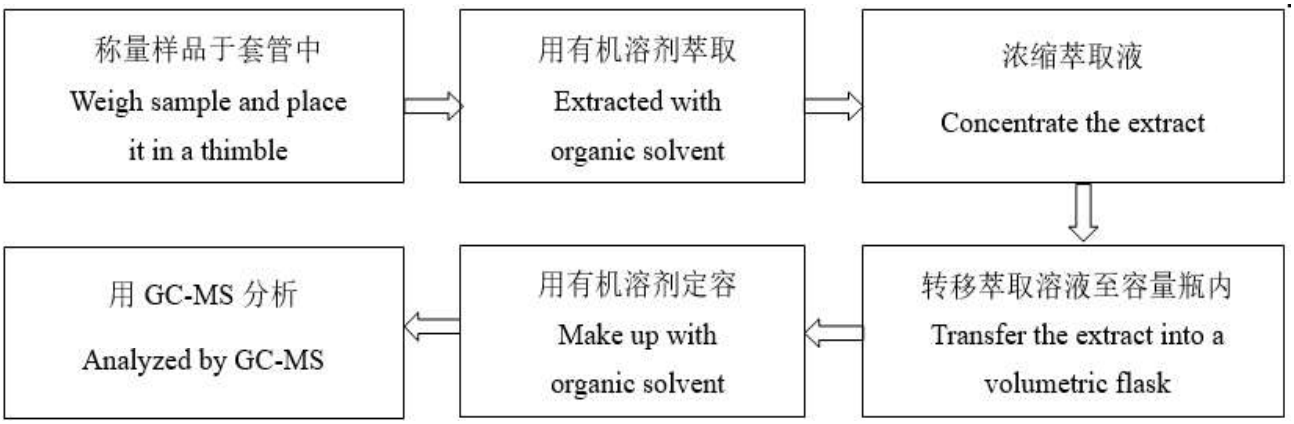
2. **汞(Hg)**
   Mercury (Hg)



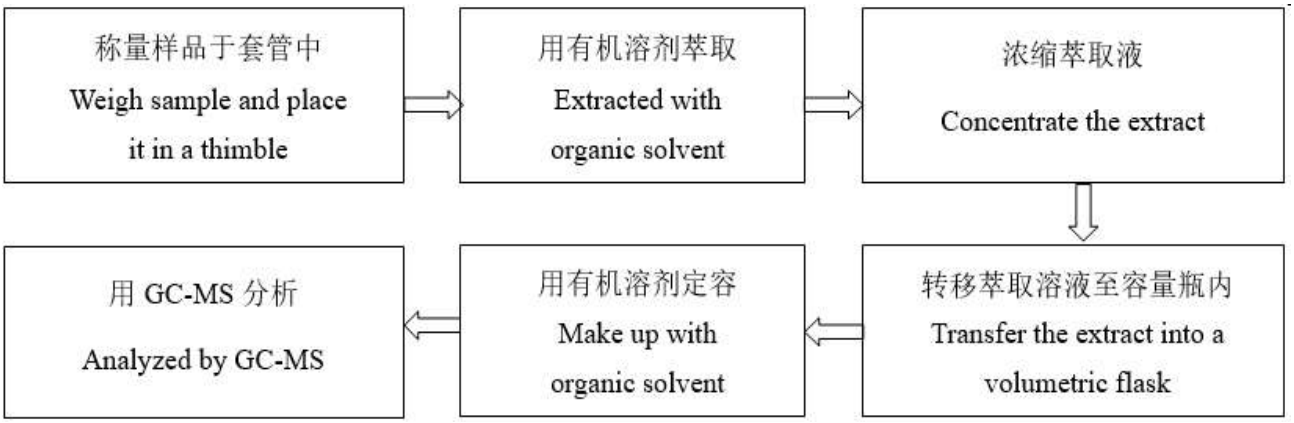
3. **六价铬(Cr(VI))**
   Hexavalent Chromium (Cr(VI))



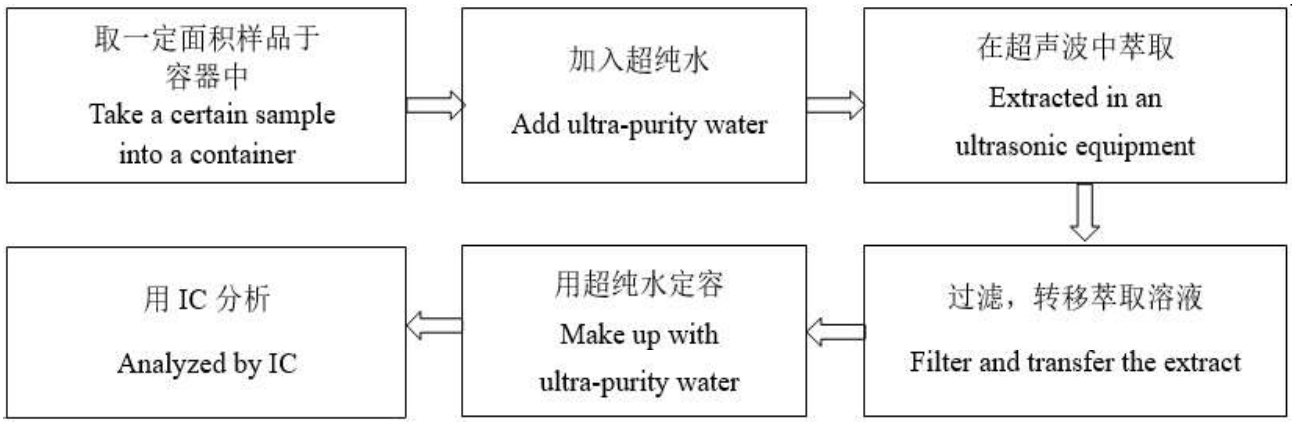
4. 多溴联苯(PBBs)， 多溴二苯醚(PBDEs)
Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



5. 邻苯二甲酸酯(DBP， BBP， DEHP， DIBP)
Phthalates (DBP, BBP, DEHP, DIBP)

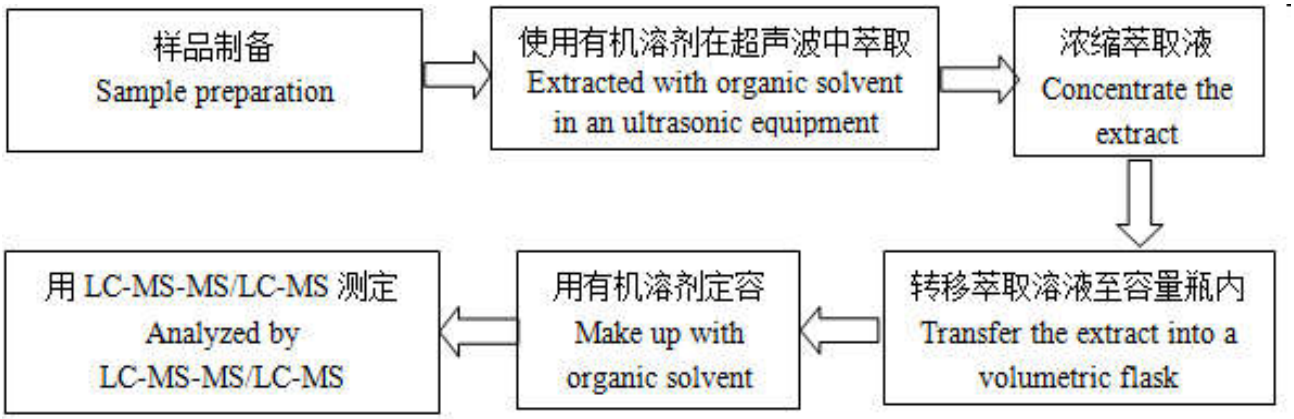


6. 氟(F)， 氯(Cl)， 溴(Br)， 碘(I)
Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



7. 全氟辛烷磺酸(PFOS)， 全氟辛酸(PFOA)

Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)



检测报告
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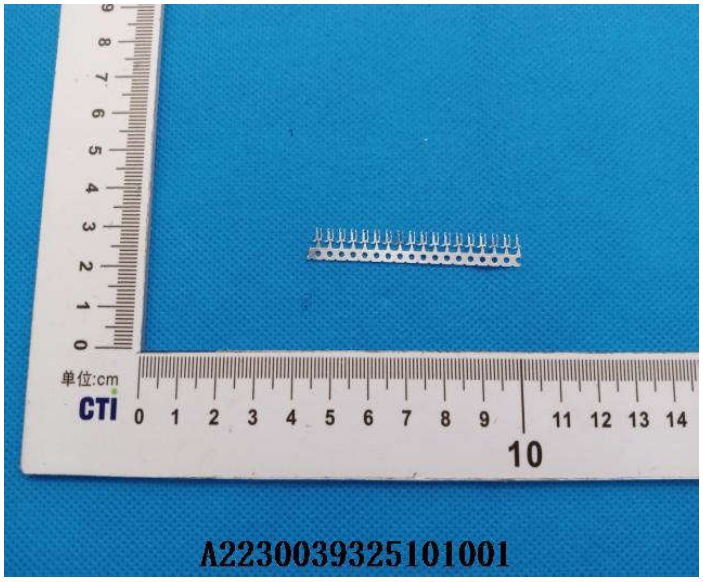
样品图片
Photo(s) of the sample(s)



声明Statement：

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效；
   This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI未核实其真实性；
   The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn’t verified;
3. 本报告检测结果仅对受测样品负责；
   The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 未经CTI书面同意，不得部分复制本报告；
   Without written approval of CTI, this report can’t be reproduced except in full;
5. 如检测报告中的英文内容与中文内容有差异，以中文为准。
   In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

报告结束
*** End of report ***

浙江新城南表面处理工程有限公司 ZHE JIANG NEW CHENGNAN SURFACE TREATMENT ENGINEERING CO., LTD		所属单位 Department	电镀部 Plating	版本 Edition	03
				日期 Date	2019.09.01
主题 Subject	镀镍层SDS资料 Nickel coating SDS data	制定部门 Formulating Department	工程部 Engineering Department	页次 Page No.	共3页

序号 No.	主要内容 content	详细内容 details		
1	物品与厂商资料 Item name and manufacturer's information	1、物品名称： 电镀镍 Item name:Nickel 2、制造商名称地址：乐清市盐盘环保工业园C区-C7 Manufacturer's address:Park C-C7 environmental protection industrialPark C-C7 .yueqing 3、联络电话/传真：0577-57153333/0577-57157822 Tel:13706777378		
2	危险性描述 Description of danger	可引起镍皮炎，又称镍“痒疹”。皮肤剧痒，后出现丘疹、苞疹及红斑，重者化脓，溃烂，长期吸入镍粉可致呼吸导刺激、慢性鼻炎，甚至发生鼻中隔穿穿孔。尚可引起变态反应性肺炎、支气管炎、哮喘等。本品具刺激性，接触可引起皮炎，奇痒。 Can cause nickel dermatitis, also known as nickel ″prurigo″. The skin play itching, after the papules, bracts and erythema, the heavy purulent, ulcerated, long-term inhalation of nickel powder can cause respiratory stimulation, chronic rhinitis, even nasal septum perforation. It can cause allergic pneumonia, bronchitis, asthma and so on. This product is irritating. Contact can cause dermatitis and itching.		
3	成分辨识资料 Component identification data	含有物质 Contain substance	CAS NO.	含有率% Rate of%
		镍(Ni)	7440-02-0	100%
4	急救措施 First aid measures	• 吸入：脱离现场至空气新鲜处。如呼吸困难，给输氧，就医。 Inhalation: out of the scene to the fresh air. If the breathing is difficult, give oxygen, go to the doctor. •皮肤接触：脱去污染的衣着，用肥皂水和清水彻底的冲洗皮肤。 Skin contact: remove contaminated clothing and rinse skin thoroughly with soapy water and clear water. •眼睛接触：提起眼脸，用流动清水或生理水冲洗，就医。 Eye contact: lift your eyes and rinse with flowing or physiological water for medical treatment. • 食入：饮足量温水，催吐，就医。 Feed in: drink a full amount of warm water, vomiting, medical treatment		
5	消防措施 Fire protection measures	适用灭火剂：不需要 Application of fire extinguishing agent: no need 灭火时可能遭遇之特殊危害：不易燃烧 Fire hazards may be encountered: not easy to burn. 特殊灭火程序：无 Special fire extinguishing procedures: no 消防人员之特殊防护设备：无 Special protective equipment for fire fighters: no		

6	泄漏的应急措施 Emergency measures for leakage	个人应注意事项：无The individual attention: no 环境注意事项：无Environmental precautions: no 清理方法：无Clean up methods: no	
7	操作处置与储存方法 Operation disposal and storage method	处置：常规处置办法Disposal: conventional treatment 储存：温度5-36℃，湿度＜70％RH条件下储存 Storage: at temperature of 5-36℃, humidity below 70%RH	
8	接触控制与个体防护 Contact control and individual protection	个人防护设备：Personal protective equipment: •呼吸防护：不需要Respiratory protection: no need •手部防护：戴手套接触•Hand protection: Wear gloves •眼睛防护：不需要Eye protection: no need •皮肤及身体防护：不需要Skin and body protection: no need 卫生措施：无Health measures: no	
9	物理与化学特性 Physical and chemical properties	物质状态：固态 State of substance: solid state 颜色：银白色Color: silver white PH值：无PH: no 自燃温度：常温稳定 Spontaneous combustion temperature: constant temperature stability 熔点/凝固点：1453℃ Melting/freezing point: 1453℃ 分配系数(正辛醇/水）：无资料 Distribution coefficient (octanol / water): no data	形状：圆形Shape:round 气味：无Smell: no 沸点/沸点范围：无 Boiling point / boiling point range: no 爆炸界限：无 Limit of explosion: no 易燃性：空气中不燃烧 Flammability: no combustion in the air 挥发速率：无资料 Volatilization rate: no data
10	安全性与反应性 Safety and reactivity	安定性：十分安定Stability: very stable 特殊状况下可能之危害反应：不需要 Possible damage responses under special conditions: no 应避免之状况：不需要The situation should be avoided: no need 应避免之物质：不需要The substance that should be avoided: no need 危害分解物：无Harmful decomposer: no	
11	毒性资料 Toxicity data	急毒性：无Acute toxicity: no 局部效应：无Local effect: no 致敏感性：无Sensitivities: no 慢毒性或长期毒性：无Slow or long-term toxicity: no 特殊效应：无Special effects: no	

12	环境影响 environmental effect	可能之环境影响/环境流布：对水体可造成污染,需进行处理排放. Possible environmental impacts / environmental spread: water pollution may be caused and disposal is needed.			
		生态毒性： Ecotoxicity	短期毒性：鱼类：15.3mg/L；溞类：＞200μg/L；藻类：1430μg/L Short term toxicity: fish: 15.3mg/L; Daphnia: > 200 g/L; algae: 1430 g/L		
			长期毒性：鱼类：未知；溞类：未知；藻类：未知 Long term toxicity: fish: unknown; Daphnia: unknown; algae: unknown		
		持久性及降解性：未知 Persistence and degradability: unknown			
		生物蓄积性：未知 Bioaccumulation: unknown			
		土壤中之流动性：未知 Fluidity in the soil: unknown			
		其他不良效应：未知 Other adverse effects: unknown			
13	废弃处置方法 Discarded disposal method	废弃处置方法：废水处理. Waste disposal method: waste water treatment.			
14	装运要点 Main points of shipment	运输过程中要确保产品不倒塌、不坠落、不损坏，防止产品刮伤、碰伤等，严禁与氧化剂，酸类、食用化学品等混装混运，运输途中应防暴晒、雨淋。车辆运输完毕建议进行彻底清扫。 In the course of transportation, we should ensure that products do not collapse, fall, not damage, prevent products from scratching and bruising and so on. They are strictly prohibited from mixing and mixing with oxidizing agents, acids, food chemicals and so on. The proposal of vehicle transportation is thoroughly cleaned up.			
15	法规资料 Legal information	化学危险物品安全管理条例（1987年2月17日国务院发布），化学危险物品安全管理条例实施细则（化劳发「1992」677号），工作场所安全使用化学平规定（「1996」劳动部发423号）等法规，针对化学危险品的安全使用、生产、储存、运输、装卸等方面均作了相应规定。 Regulations for the safety management of chemical hazardous materials (issued by the State Council in February 17, 1987), detailed rules for the implementation of the regulations on the safety management of hazardous chemicals (「1996」No. 677), the safe use of chemical regulations in the workplace (「1996」, the Ministry of labour No.423), for the safe use, production and storage of chemical dangerous goods Transportation, loading and unloading are also stipulated.			
16	其它资料 Other information	无 No			
核准	叶岳建	审核	胡海平	制作	沈丹丹

检测报告
Test Report

报告编号 A2230039325101005E
Report No. A2230039325101005E

报告抬头公司名称
Company Name shown on Report
乐清市新城南表面处理工程有限公司
YUEQING XINCHENGNAN SURFACE TREATMENT ENGINEERING CO., LTD

地 址
Address
乐清市经济开发区环保园区C区-C7
ZONE C-C7, ENVIRONMENTAL PROTECTION PARK, YUEQING ECONOMICDEVELOPMENT ZONE

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称 Sample Name	镍镀层 Nickel coating
样品型号 Part No.	LD-05 LD-05
材料名称 Material	CuSn CuSn
供应商 Supplier	乐清市新城南表面处理工程有限公司 YUEQING XINCHENGNAN SURFACE TREATMENT ENGINEERING CO., LTD
样品接收日期 Sample Received Date	2023.02.08 Feb. 8, 2023
样品检测日期 Testing Period	2023.02.08-2023.02.13 Feb. 8, 2023 to Feb. 13, 2023

检测要求

根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)，氟(F)，氯(Cl)，溴(Br)，碘(I)，全氟辛烷磺酸(PFOS)，全氟辛酸(PFOA)进行测试。

Test Requested

As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA) in the submitted sample(s).

检测依据/检测结果
Test Method/Test Result(s)
请参见下页。
Please refer to the following page(s).

批 准
Approved by

陈凯敏
实验室经理 Lab Manager

日 期
Date
2023.02.13

检测报告
Test Report

****

结论 Conclusion

测试样品 Tested Sample	依据标准/指令 According to standard/directive	结果 Result
提交样品 Submitted Sample	欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	符合 PASS

****

符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。
PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

检测报告
Test Report

检测依据 Test Method

测试项目 Test Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	参考IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	参考IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	参考IEC 62321-4:2013+AMD1:2017 CSV Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
氟 Fluorine (F)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
氯 Chlorine (Cl)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
溴 Bromine (Br)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
碘 Iodine (I)	参考EN 14582:2016* Refer to EN 14582:2016*	IC
全氟辛烷磺酸 Perfluorooctane Sulfonates(PFOS)	参考US EPA 3550C:2007 & US EPA 8321B:2007* Refer to US EPA 3550C:2007 & US EPA 8321B:2007*	LC-MS-MS/LC-MS
全氟辛酸 Perfluorooctanoic Acid(PFOA)	参考US EPA 3550C:2007 & US EPA 8321B:2007* Refer to US EPA 3550C:2007 & US EPA 8321B:2007*	LC-MS-MS/LC-MS

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	005		
铅 Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D. ▼	0.10 μg/cm² (LOQ)	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	005		
多溴联苯 Polybrominated Biphenyls (PBBs)			
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	005		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg	

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result 005	方法检出限 MDL	限值 Limit
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result 005	方法检出限 MDL
氟 Fluorine (F)	N.D.	1 μg/cm²
氯 Chlorine (Cl)	N.D.	1 μg/cm²
溴 Bromine (Br)	N.D.	1 μg/cm²
碘 Iodine (I)	N.D.	1 μg/cm²

测试项目 Tested Item(s)	结果 Result 005	方法检出限 MDL
全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS)	N.D.	0.5 μg/m²

测试项目 Tested Item(s)	结果 Result 005	方法检出限 MDL
全氟辛酸 Perfluorooctanoic Acid (PFOA)	N.D.	0.5 μg/m²

CTI 华测检测

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样品/部位描述Sample/Part Description

序号 No.	CTI样品ID CTI Sample ID	描述 Description
1	005	银色镀层 Silvery plating

备注: **对于检测铅，镉，汞之样品已消解完全。**
-N.D. = 未检出 (小于方法检出限或定量限)
-mg/kg = ppm = 百万分之一
-1000 mg/kg = 0.1%
-LOQ = 定量限，六价铬的定量限为0.10 μg/cm²
-▼六价铬浓度小于0.10 μg/cm²，样品未检出六价铬。

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL or LOQ)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%
-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm²
-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10 μg/cm². The coating is considered a non-Cr(VI) based coating.

注释: **本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。**
"*"表示该方法不在CNAS认可范围内。

Note: **The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.**
"*"indicates the method(s) is (are) not in CNAS accreditation scope.

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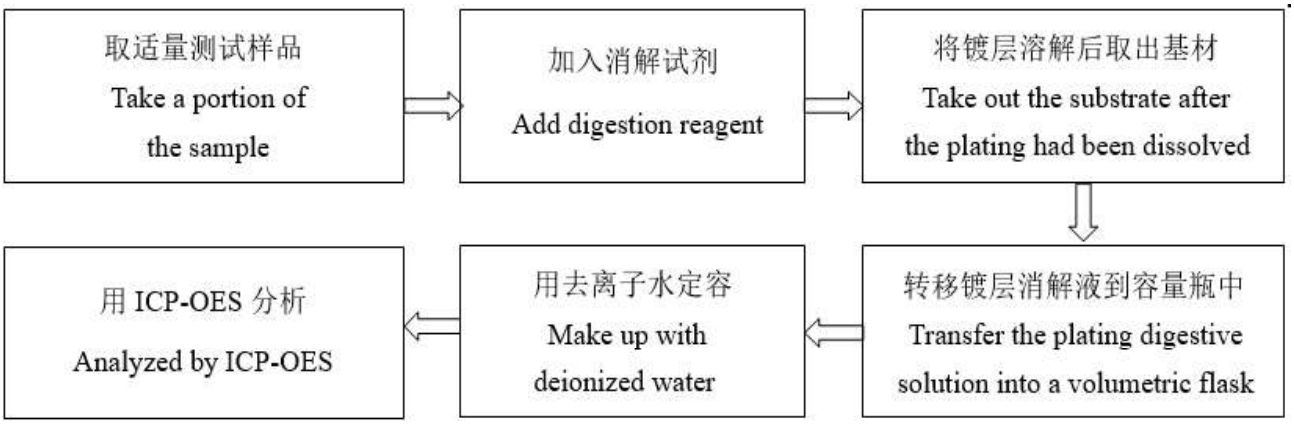
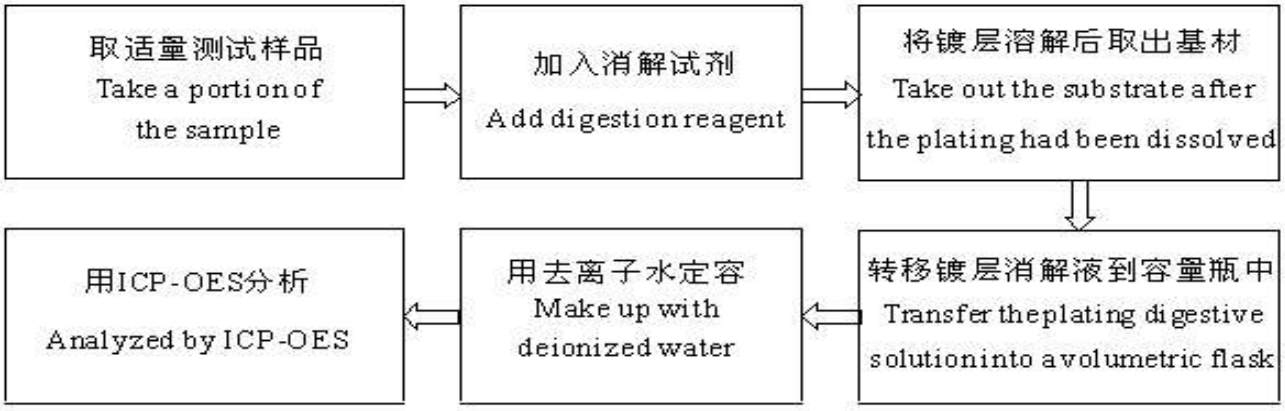
检测流程 Test Process

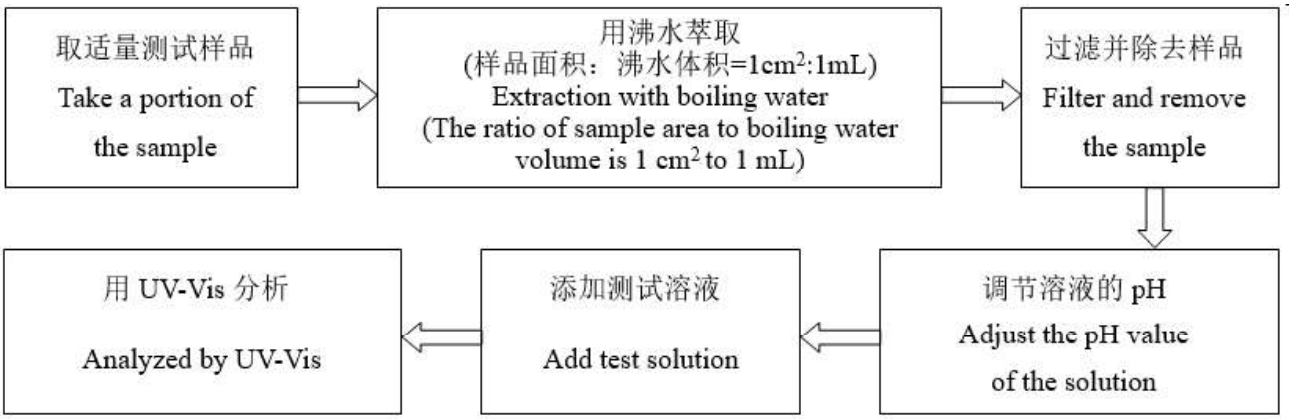
1. **铅(Pb)， 镉(Cd)**
   Lead (Pb), Cadmium (Cd)



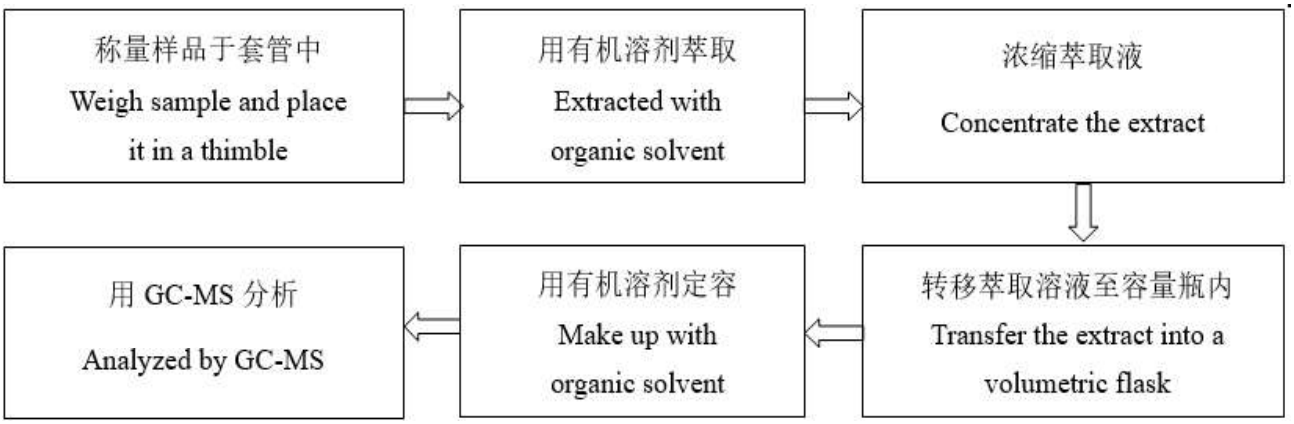
2. **汞(Hg)**
   Mercury (Hg)



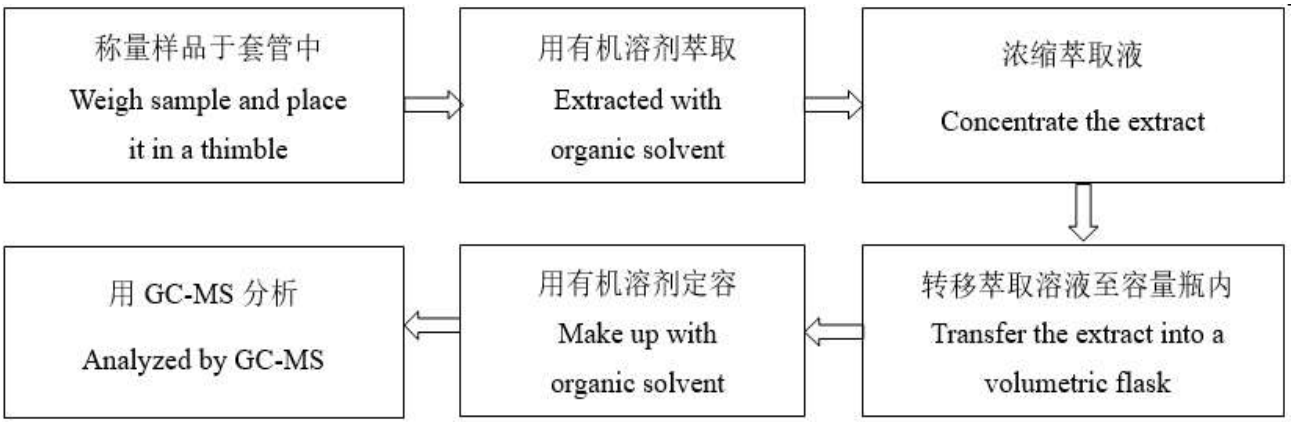
3. **六价铬(Cr(VI))**
   Hexavalent Chromium (Cr(VI))



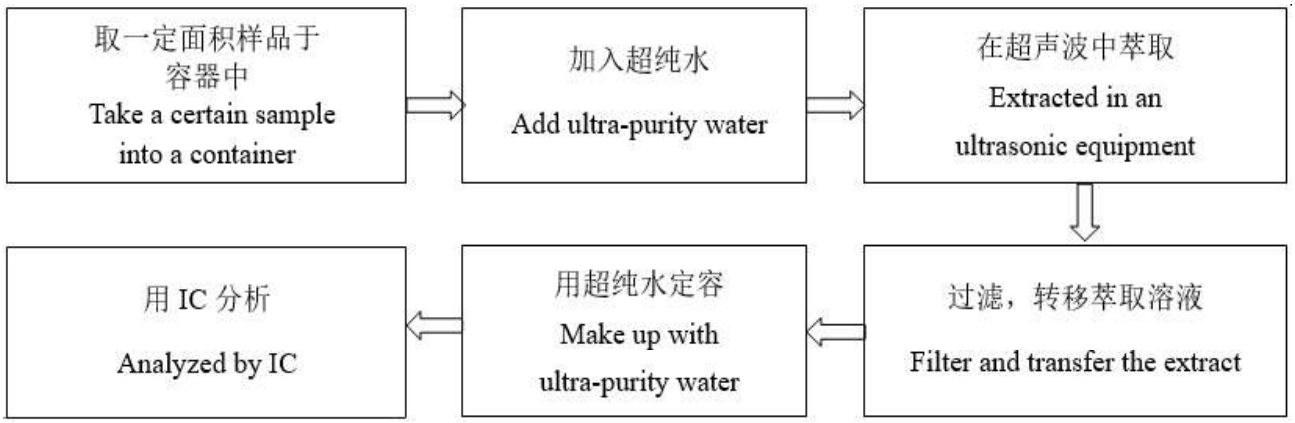
4. 多溴联苯(PBBs)， 多溴二苯醚(PBDEs)
Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



5. 邻苯二甲酸酯(DBP， BBP， DEHP， DIBP)
Phthalates (DBP, BBP, DEHP, DIBP)

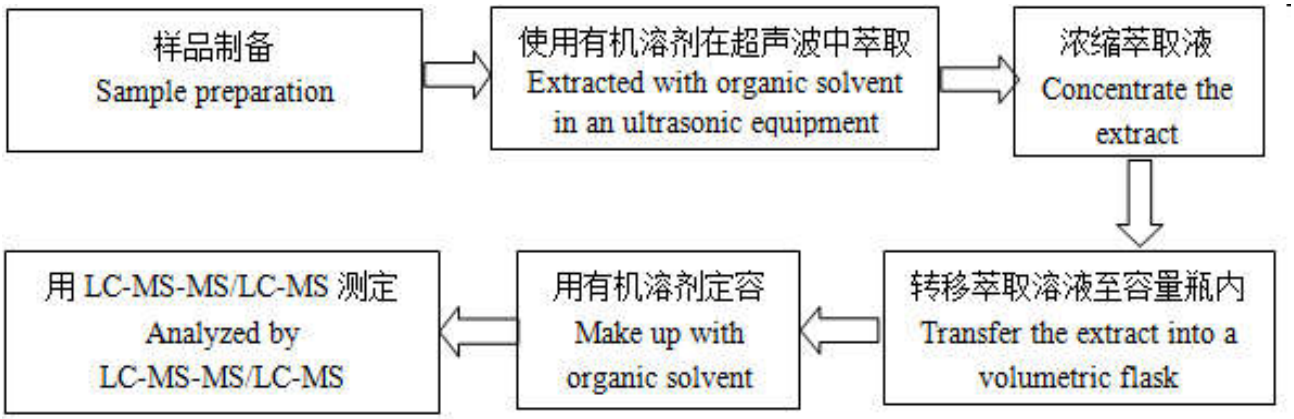


6. 氟(F)， 氯(Cl)， 溴(Br)， 碘(I)
Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



7. 全氟辛烷磺酸(PFOS)， 全氟辛酸(PFOA)

Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)



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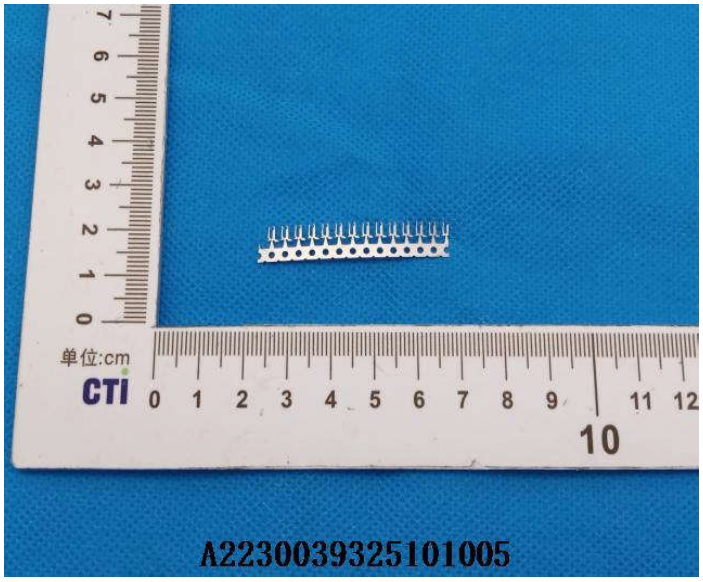
样品图片
Photo(s) of the sample(s)



声明Statement：

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   This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI未核实其真实性；
   The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn’t verified;
3. 本报告检测结果仅对受测样品负责；
   The result(s) shown in this report refer(s) only to the sample(s) tested;
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报告结束
*** End of report ***