

## Test Report 检测报告

Report No.报告编号:  
U0902240604603-25Z

Query Password  
查询密码: QW8026

Date: Jun. 7, 2024  
日期: 2024年6月7日

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## Applicant

委托单位:

ZheJiang XiangDu Instrument Technology Co., Ltd

浙江祥都仪表科技有限公司

## Contact information

联络信息:

No.316,HongFa Road,QiaoNan Economic and Technological Development

XiaoShan City HangZhou District

杭州市萧山区桥南开发区鸿发路 316 号

## The following sample(s) was (were) submitted and identified by client as:

以下测试样品信息由申请者所提供确认:

Sample Name 样品名称

: 铜镀锡

Received Date 接收日期

Jun. 4, 2024

: 2024年6月4日

Testing Period 检测日期

From Jun. 4, 2024 to Jun. 7, 2024

: 2024年6月4日 ~ 2024年6月7日

Test Request 检测要求

: Please refer to next page(s). 请参见下页

Test Result(s)检测结果

: Please refer to next page(s). 请参见下页

Shen Zhen UONE Test Co., LTD.

深圳市宇冠检测有限公司

Prepared by 编制人

Max 吴浩东

Max Wu 吴浩东

Checked by 审核人

Thea 叶莉

Thea Ye 叶莉

Approved by 签发人

Hedy 徐琴连

Hedy Xu 徐琴连

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## Summary of Test Results 检测内容:

### TEST REQUEST 测试要求

- (1) RoHS Directive 2011/65/EU and its subsequent amendments Directive (EU) 2015/863

RoHS 指令 2011 / 65 / EU 及其修订指令 (EU) 2015/863

Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)),  
Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers  
(PBDEs), Phthalates (DBP, BBP, DEHP, DIBP)

铅 (Pb)、镉 (Cd)、汞 (Hg)、六价铬 (Cr(VI))、多溴联苯 (PBBs) 和多  
溴二苯醚 (PBDEs)、邻苯二甲酸盐 (酯) (DBP、BBP、DEHP、DIBP)

### CONCLUSION 结论

**PASS**  
合格

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## Test Material(s) List 测试材料清单:

Material No. 材料编号	Description (Location) 描述 (位置)	Photo(s) of tested materials 测试材料照片
1	Silvery metal (mesh) 银色金属 (网)	
2	Red fiberglass sleeve 红色玻纤套管	
3	Black fiberglass sleeve 黑色玻纤套管	
4	Silvery metal (wire) 银色金属 (线芯)	

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## Test result(s)测试结果:

(1) Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs), Phthalates(DBP, BBP, DEHP, DIBP)

铅 (Pb)、镉 (Cd)、汞 (Hg)、六价铬 (Cr(VI))、多溴联苯 (PBBs) 和多溴二苯醚 (PBDEs)、邻苯二甲酸盐 (酯) (DBP、BBP、DEHP、DIBP)

(1.1) Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI))

铅 (Pb)、镉 (Cd)、汞 (Hg)、六价铬 (Cr(VI))

Test Method: With reference to IEC 62321-5: 2013, IEC62321-4: 2013+A1:2017, IEC 62321-7-1: 2015 or IEC 62321-7-2: 2017, analyzed by ICP-OES &amp; UV-Vis.

测试方法: 参考 IEC 62321-5: 2013, IEC62321-4: 2013+A1:2017, IEC 62321-7-1: 2015 或 IEC 62321-7-2: 2017, 使用 ICP-OES &amp; UV-Vis 分析。

Test Items 检测项目	Unit 单位	MDL	Limit 限值	Test result 测试结果		
				1	2	3
Lead 铅 (Pb)	mg/kg	2	1000	N.D.	N.D.	N.D.
Cadmium 镉 (Cd)	mg/kg	2	100	N.D.	N.D.	N.D.
Mercury 汞 (Hg)	mg/kg	2	1000	N.D.	N.D.	N.D.
Hexavalent Chromium 六价铬(Cr(VI))	mg/kg	8	1000	NA	N.D.	N.D.
Hexavalent Chromium 六价铬 (Cr(VI))		See note 1 见备注 1		Negative 阴性	NA	NA
Conclusion 结论				PASS 合格	PASS 合格	PASS 合格

Test Items 检测项目	Unit 单位	MDL	Limit 限值	Test result 测试结果
				4
Lead 铅 (Pb)	mg/kg	2	1000	N.D.
Cadmium 镉 (Cd)	mg/kg	2	100	N.D.
Mercury 汞 (Hg)	mg/kg	2	1000	N.D.
Hexavalent Chromium 六价铬(Cr(VI))	mg/kg	8	1000	NA
Hexavalent Chromium 六价铬 (Cr(VI))		See note 1 见备注 1		Negative 阴性
Conclusion 结论				PASS 合格

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--Note 1 备注 1:

Boiling-water-extraction:(X represents the results of the tested sample )

沸水提取: X 为待测样品结果

Number 序号	Colorimetric result (Cr(VI) concentration) 比色结果(铬(VI)浓度)	Judgement 判定
1	$X < 0.1 \mu\text{g}/\text{cm}^2$	Negative# 阴性#
2	$0.1 \mu\text{g}/\text{cm}^2 \leq X \leq 0.13 \mu\text{g}/\text{cm}^2$	Uncertainty# 不确定#
3	$X > 0.13 \mu\text{g}/\text{cm}^2$	Positive# 阳性#

#

- Negative indicates the absence of Cr(VI) on the tested areas concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating. 阴性表明测试区域内六价铬含量低于定量极限, 认定镀层不存在六价铬;
- Uncertainty indicates the absence of Cr(VI) on the tested areas unavoidable coating variations may influence the determination. 不确定表明测试区域镀层六价铬的不可避免的变化影响结果判定, 导致无法判定结果;
- Positive indicates the presence of Cr(VI) on the tested areas concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI). 阳性表明测试区域内六价铬含量高于于定量极限, 认定镀层含有六价铬;
- Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing. 由于未获知样品的存储条件和生产日期、样品的六价铬测试结果仅代表测试时样品的状态。

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## (1.2) Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs)

多溴联苯 (PBBs) 和多溴二苯醚 (PBDEs)

Test Method: With reference to IEC 62321-6:2015, was analyzed by Gas Chromatographic - Mass Spectrometer (GC-MS).

测试方法: 参考 IEC 62321-6:2015, 使用气相色谱质谱联用仪 (GC-MS) 分析。

Test Items 检测项目	Unit 单位	MDL	Limit 限值	Test result 测试结果	
				2	3
Mono-bromobiphenyl 一溴联苯	mg/kg	5	/	N.D.	N.D.
Di-bromobiphenyl 二溴联苯	mg/kg	5	/	N.D.	N.D.
Tri-bromobiphenyl 三溴联苯	mg/kg	5	/	N.D.	N.D.
Tetra-bromobiphenyl 四溴联苯	mg/kg	5	/	N.D.	N.D.
Penta-bromobiphenyl 五溴联苯	mg/kg	5	/	N.D.	N.D.
Hexa-bromobiphenyl 六溴联苯	mg/kg	5	/	N.D.	N.D.
Hepta-bromobiphenyl 七溴联苯	mg/kg	5	/	N.D.	N.D.
Octa-bromobiphenyl 八溴联苯	mg/kg	5	/	N.D.	N.D.
Nona-bromobiphenyl 九溴联苯	mg/kg	5	/	N.D.	N.D.
Deca-bromobiphenyl 十溴联苯	mg/kg	5	/	N.D.	N.D.
<b>Polybrominated Biphenyls 多溴联苯(PBBs)</b>	mg/kg	/	1000	N.D.	N.D.
Mono-bromodiphenyl ether 一溴二苯醚	mg/kg	5	/	N.D.	N.D.
Di-bromodiphenyl ether 二溴二苯醚	mg/kg	5	/	N.D.	N.D.
Tri-bromodiphenyl ether 三溴二苯醚	mg/kg	5	/	N.D.	N.D.
Tetra-bromodiphenyl ether 四溴二苯醚	mg/kg	5	/	N.D.	N.D.
Penta-bromodiphenyl ether 五溴二苯醚	mg/kg	5	/	N.D.	N.D.
Hexa-bromodiphenyl ether 六溴二苯醚	mg/kg	5	/	N.D.	N.D.
Hepta-bromodiphenyl ether 七溴二苯醚	mg/kg	5	/	N.D.	N.D.
Octa-bromodiphenyl ether 八溴二苯醚	mg/kg	5	/	N.D.	N.D.
Nona-bromodiphenyl ether 九溴二苯醚	mg/kg	5	/	N.D.	N.D.
Deca-bromodiphenyl ether 十溴二苯醚	mg/kg	5	/	N.D.	N.D.
<b>Polybrominated DiphenylEthers 多溴二苯醚 (PBDEs)</b>	mg/kg	/	1000	N.D.	N.D.

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Conclusion 结论	PASS 合格	PASS 合格
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## (1.3) Phthalates 邻苯二甲酸盐(酯) (DBP, BBP, DEHP, DIBP)

Test Method: With reference to IEC 62321-8: 2017, analyzed by gas chromatographic- mass spectrometer (GC-MS).

测试方法: 参考 IEC 62321-8: 2017, 使用气相色谱质谱联用仪 (GC-MS) 分析。

Test Substances 检测物质	CAS No. CAS 号	Unit 单位	MDL	Limit 限值	Test result 测试结果	
					2	3
Dibutyl phthalate 邻苯二甲酸二丁酯 (DBP)	84-74-2	mg/kg	20	1000	N.D.	N.D.
Butyl benzyl phthalate 邻苯二甲酸丁苄酯 (BBP)	85-68-7	mg/kg	20	1000	N.D.	N.D.
Di(2-ethylhexyl) phthalate 邻苯二甲酸二(2-乙基)己酯 (DEHP)	117-81-7	mg/kg	20	1000	N.D.	N.D.
Diisobutyl phthalate 邻苯二甲酸二异丁酯(DIBP)	84-69-5	mg/kg	20	1000	N.D.	N.D.
Conclusion 结论					PASS 合格	PASS 合格

- Note 备注:**
1. mg/kg = milligram per kilogram (ppm). mg/kg = 毫克每千克(ppm)。
  2. “/”=Not regulated. “/” =无规定。
  3. NA = Not Applicable. NA = 不适用。
  4. MDL= method detection limit. MDL= 方法检出限。
  5. N.D.=not detected(less than MDL). N.D. = 未检测到 (小于 MDL)。
  6. Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating.阴性=不存在六价铬涂层/表面层; 阳性=存在六价铬涂料/表面层。

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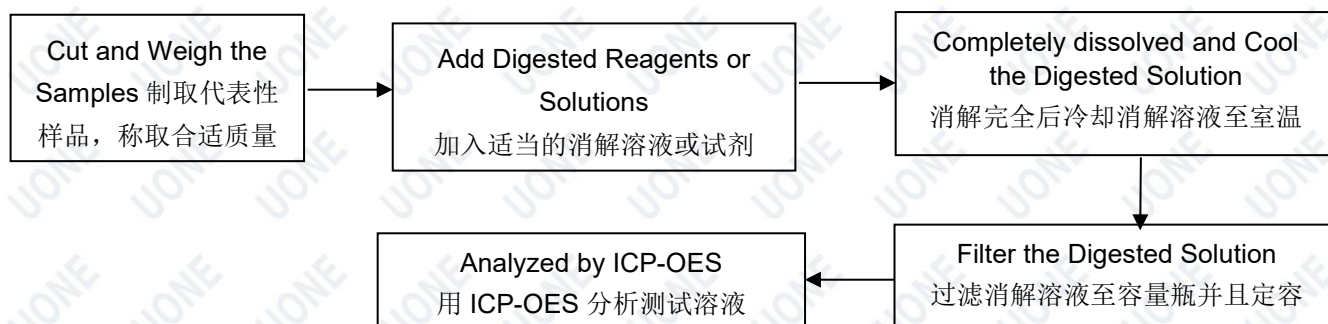
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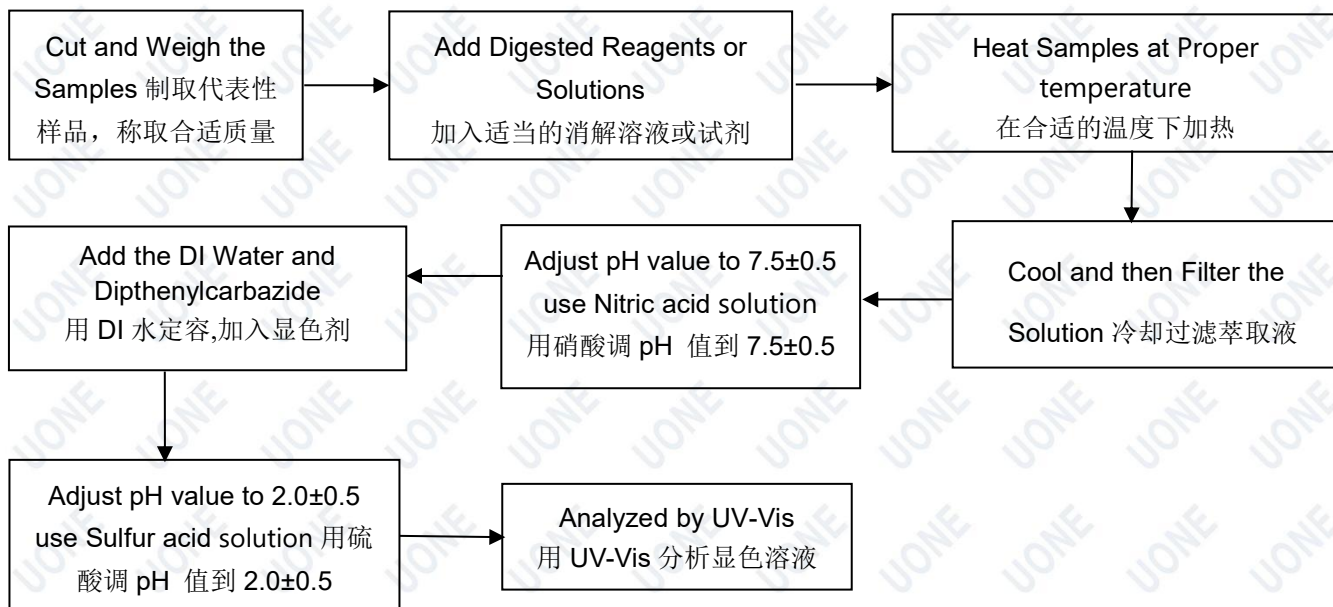
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## Test Process Flow 检测流程图

### 1. Lead, Cadmium, Mercury 铅、镉、汞



### 2. Hexavalent Chromium (Non-metal) 六价铬 (非金属)



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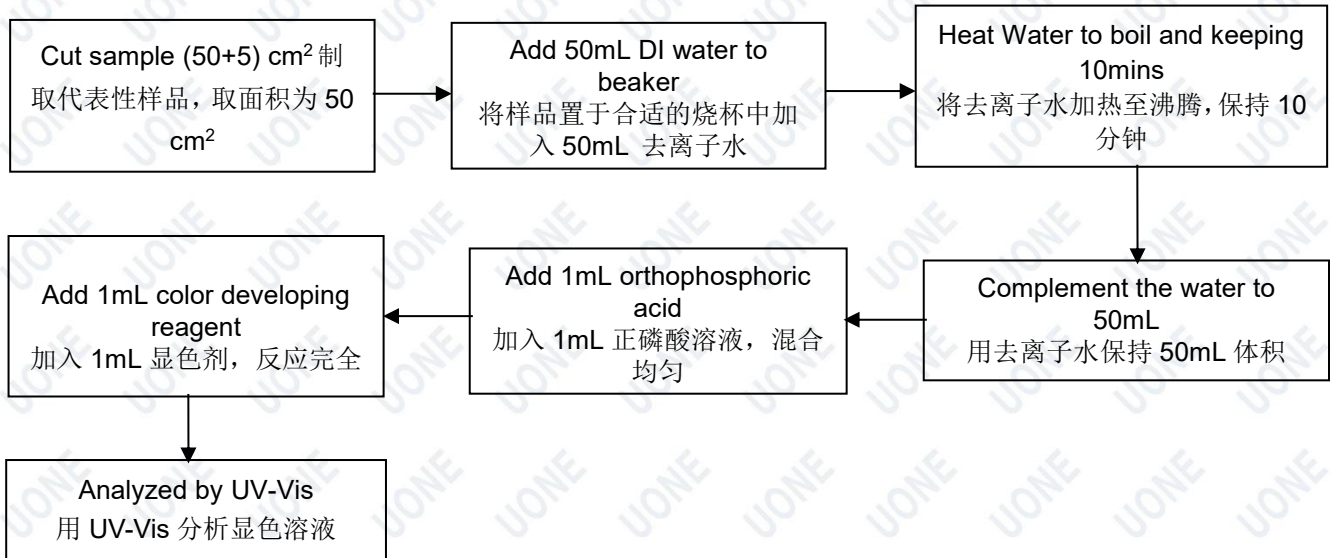
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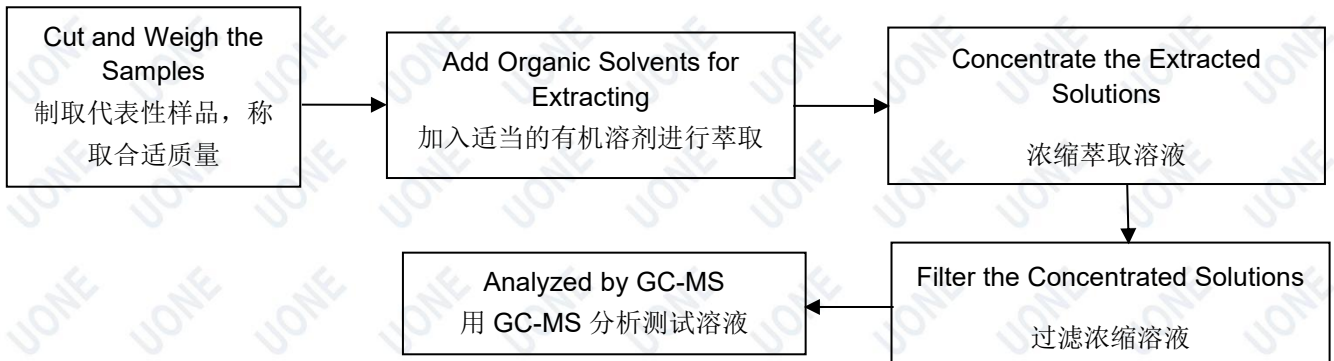
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Hexavalent Chromium (Metal) 六价铬 (金属)



3. PBBs & PBDEs, Phthalates 多溴联苯和多溴二苯醚, 邻苯二甲酸盐 (酯)



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Photo(s) of Sample  
样品图片



\*\*\*End of Report 报告结束\*\*\*

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## Statement 声明

1.The information listed on the first page of this test report, except the date of receipt, test date, test result and test conclusion, is provided by the client. The client shall be responsible for the representativeness of sample and authenticity of materials, for which UONE shall bear no responsibilities.

本检测报告首页所列信息中除接收日期、检测日期、检测结果和检测结论外,均由委托方提供,委托方对样品的代表性和资料的真实性负责,本公司不承担任何相关责任。

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