

## 测试报告

No. CANEC2116296122

日期: 2021年09月10日 第1页,共9页

广东超华科技股份有限公司  
广东省梅县雁洋镇松坪村

以下测试之样品是由申请者所提供及确认: 电解铜箔

SGS工作编号: CP21-046354 - SZ  
 型号: HTE  
 样品接收日期: 2021年08月31日  
 测试周期: 2021年08月31日 - 2021年09月09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

测试结果概要:

测试要求	结论
欧盟决议(EC) No 1907/2006 Reach 附录XVII及其修正法案(EC) No 412/2012 第61条-富马酸二甲酯(DMF)	符合
欧盟决议(EC) No 1907/2006 REACH 附录XVII及其修正法案(EU) 2016/2235 第66条- 双酚-A	符合
欧盟决议(EC) No 1907/2006 REACH 附录XVII及其修正法案(EU) No 276/2010第20条- 有机锡	符合
欧盟决议(EC) No 1907/2006 REACH 附录XVII及其修正法案(EU) 2016/1005第6条-石棉	符合
欧盟决议(EC) No 1907/2006 REACH 附录XVII及其修正法案(EC) No 552/2009 第27条-镍释放量	符合
偶氮	见测试结果

通标标准技术服务有限公司广州分公司  
授权签名

陈江梨

Allie Chen陈江梨  
批准签署人

scan to see the report



CANEC2116296122



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

198 Kazhu Road, Sciencetech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663

中国·广州·经济技术开发区科学城科珠路198号

邮编: 510663

t (86-20) 82155555

t (86-20) 82155555

[www.sgs.com](http://www.sgs.com)

[sgs.china@sgs.com](mailto:sgs.china@sgs.com)

## 测试报告

No. CANEC2116296122

日期: 2021年09月10日 第2页,共9页

测试结果:

### 测试样品描述:

样品编号	SGS样品ID	描述
SN1	CAN21-162961.001	带红铜色表层的红铜色金属
SN2	CAN21-162961.002	带红铜色表层的红铜色金属

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

### 欧盟决议(EC) No 1907/2006 Reach附录XVII及其修正法案(EC) No 412/2012 第61条-富马酸二甲酯(DMF)

测试方法: 参考SGS内部方法(GZTC CHEM-TOP-095), 采用GC-MS分析。

测试项目	限值	单位	MDL	001
富马酸二甲酯(DMF)	0.1	mg/kg	0.1	ND
评论				符合

### 欧盟决议(EC) No 1907/2006 REACH附录XVII及其修正法案(EU) 2016/2235 第66条- 双酚-A

测试方法: SGS内部方法(GZTC CHEM-TOP-075-02, 参考EPA 3550C:2007 和EPA 8321B:2007), 采用LC-MS进行分析。

测试项目	CAS NO.	限值	单位	MDL	001
双酚-A	80-05-7	200	mg/kg	1.0	ND
评论					符合

### 欧盟决议(EC) No 1907/2006 REACH附录XVII及其修正法案(EU) No 276/2010第20条- 有机锡

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

测试项目	限值	单位	MDL	001
按TBT (三丁基锡) 换算回锡的含量	-	%(w/w)	0.01	ND
按TPHT (三苯基锡) 换算回锡的含量	-	%(w/w)	0.01	ND
按TCyT (三环己基锡) 换算回锡的含量	-	%(w/w)	0.01	ND
按TOT (三辛基锡) 换算回锡的含量	-	%(w/w)	0.01	ND



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

## 测试报告

No. CANEC2116296122

日期: 2021年09月10日 第3页,共9页

测试项目	限值	单位	MDL	001
按TPT (三丙基锡) 换算回锡的含量	-	%(w/w)	0.01	ND
按TMT (三甲基锡) 换算回锡的含量	-	%(w/w)	0.01	ND
三代有机锡化合物换算锡含量	0.1	%(w/w)	-	ND
按DBT (二丁基锡)换算回锡的含量	0.1	%(w/w)	0.01	ND
按DOT (二辛基锡) 换算回锡的含量	0.1	%(w/w)	0.01	ND
评论				符合

### 欧盟决议(EC No 1907/2006 REACH附录XVII及其修正法案(EU) 2016/1005第6条-石棉

测试方法: 参考NIOSH 9000:2015 / ISO 22262-1:2012, 用XRD / PLM分析。

测试项目	CAS NO.	限值	单位	MDL	001
温石棉	12001-29-5/13220 7-32-0	★	%(m/m)	0.1	阴性
铁石棉	12172-73-5	★	%(m/m)	0.1	阴性
青石棉	12001-28-4	★	%(m/m)	0.1	阴性
直闪石	77536-67-5	★	%(m/m)	0.1	阴性
透闪石	77536-68-6	★	%(m/m)	0.1	阴性
阳起石	77536-66-4	★	%(m/m)	0.1	阴性
评论					符合

备注:

- (1) 阴性表示未检出石棉, 阳性表示检出石棉。
- (2) "★"= 禁止使用

### 欧盟决议(EC No 1907/2006 REACH附录XVII及其修正法案(EC) No 552/2009 第27条-镍释放量

测试方法: 参考EN 12472:2020 和EN 1811:2011 +A1:2015, 用ICP-OES分析。

测试项目	限值	单位	MDL	002
样品面积	-	cm <sup>2</sup>	-	49.81
测试溶液体积	-	mL	-	49.81
镍释放量-试验1	0.5	µg/cm <sup>2</sup> / week	0.10	ND
镍释放量-试验2	0.5	µg/cm <sup>2</sup> / week	0.10	ND
镍释放量-试验3	0.5	µg/cm <sup>2</sup> / week	0.10	ND
评论				符合

备注:



(1) 根据CR 12471:2002条款5.3.4, 点测试显示镍的结果为阴性。模拟打磨和侵蚀程序EN 12472:2020在1811:2011 + A1:2015之前被执行。

依据 EN1811:2011+ A1:2015 附录 A 中如下信息进行结果的判定:

样品类型	镍释放量 ( $\mu\text{g}/\text{cm}^2/\text{week}$ )	
	符合	不符合
样品镍释放量限值为 $0.5\mu\text{g}/\text{cm}^2/\text{week}$	$< 0.88$	$\geq 0.88$
样品镍释放量限值为 $0.2\mu\text{g}/\text{cm}^2/\text{week}$	$< 0.35$	$\geq 0.35$

### 偶氮

测试方法: 参考EN ISO 14362-1:2017, 采用GC-MS/HPLC-DAD进行分析。  
 确定4-氨基偶氮苯 (CAS No.:60-09-3) 参考EN ISO 14362-3:2017, 采用GC-MS/HPLC-DAD进行分析。

测试项目	CAS NO.	单位	MDL	001	
				方法A	方法B
4-氨基联苯	92-67-1	mg/kg	5	ND	ND
联苯胺	92-87-5	mg/kg	5	ND	ND
4-氯邻甲苯	95-69-2	mg/kg	5	ND	ND
2-萘胺	91-59-8	mg/kg	5	ND	ND
邻氨基二甲基偶氮苯	97-56-3	mg/kg	5	ND	ND
2-氨基-4-硝基甲苯	99-55-8	mg/kg	5	ND	ND



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

## 测试报告

No. CANEC2116296122

日期: 2021年09月10日 第5页,共9页

测试项目	CAS NO.	单位	MDL	001	
				方法A	方法B
对氯苯胺	106-47-8	mg/kg	5	ND	ND
2,4-二氨基苯甲醚	615-05-4	mg/kg	5	ND	ND
4,4'-二氨基二苯甲烷, MDA	101-77-9	mg/kg	5	ND	ND
3,3'-二氯联苯胺	91-94-1	mg/kg	5	ND	ND
3,3'-二甲氧基联苯胺	119-90-4	mg/kg	5	ND	ND
3,3'-二甲基联苯胺	119-93-7	mg/kg	5	ND	ND
3,3'-二甲基-4,4'-二氨基二苯甲烷	838-88-0	mg/kg	5	ND	ND
3-氨基对甲苯甲醚(p-克利酞)	120-71-8	mg/kg	5	ND	ND
4,4'-次甲基-双-(2-氯苯胺)	101-14-4	mg/kg	5	ND	ND
4,4'-二氨基二苯醚	101-80-4	mg/kg	5	ND	ND
4,4'-二氨基二苯硫醚	139-65-1	mg/kg	5	ND	ND
邻甲苯胺	95-53-4	mg/kg	5	ND	ND
2,4-二氨基甲苯, TDA	95-80-7	mg/kg	5	ND	ND



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

198 Kezhu Road, Sciencetech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663

中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663

t (86-20) 82155555 [www.sgs.com](http://www.sgs.com)

t (86-20) 82155555 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

## 测试报告

No. CANEC2116296122

日期: 2021年09月10日 第6页,共9页

测试项目	CAS NO.	单位	MDL	001	
				方法A	方法B
2,4-二氨基甲苯, TDA	95-80-7	mg/kg	5	ND	ND
2,4,5-三甲苯胺	137-17-7	mg/kg	5	ND	ND
4-氨基偶氮苯	60-09-3	mg/kg	5	ND	ND
邻甲氧基苯胺	90-04-0	mg/kg	5	ND	ND
2,4-二甲基苯胺	95-68-1	mg/kg	5	ND	ND
2,6-二甲基苯胺	87-62-7	mg/kg	5	ND	ND

### 备注:

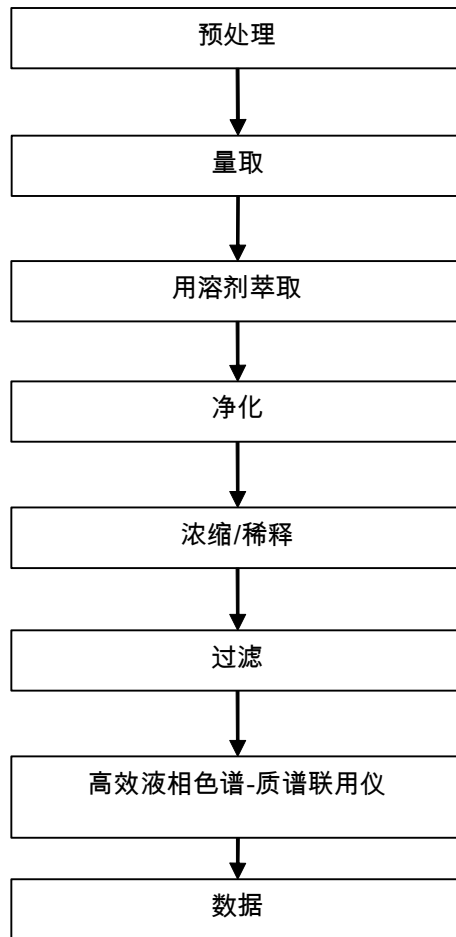
- 1、直接还原法(方法A)是指根据EN ISO 14362-1:2017 条款10.2和相关条款提取和还原;脱色提取法(方法B)是指根据EN ISO 14362-1:2017 条款10.1和相关条款进行染料萃取和还原。
- 2、4-氨基联苯(CAS No.:92-67-1), 2-萘胺(CAS No.:91-59-8), 2,4-二氨基苯甲醚(CAS No.:615-05-4)有检出时,如果没有进一步的信息(如染料的化学结构)提供,并不能确认使用了禁用的偶氮染料。
- 3、当样品中含有聚氨酯材料(如含PU泡沫、PU涂层)时,若4,4'-二氨基二苯甲烷(MDA, CAS No.:101-77-9)和2,4-二氨基甲苯(TDA, CAS No.:95-80-7)有检出,并不能确认其来自PU材料而非禁用偶氮染料;当样品中含有胶印时,MDA可能来源于化学固色剂。
- 4、EN ISO 14362-1:2017 方法会使4-氨基偶氮苯(CAS No.:60 09 3)在本实验条件下进一步裂解为非禁用的胺:苯胺和1,4-苯二胺,如果苯胺和1,4-苯二胺未检出,那么4-氨基偶氮苯被认为“ND”(i.e. <5.0 mg/kg);否则需采用EN ISO 14362-3:2017 方法验证4-氨基偶氮苯的存在。

除非另有说明,此报告结果仅对测试的样品负责。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。



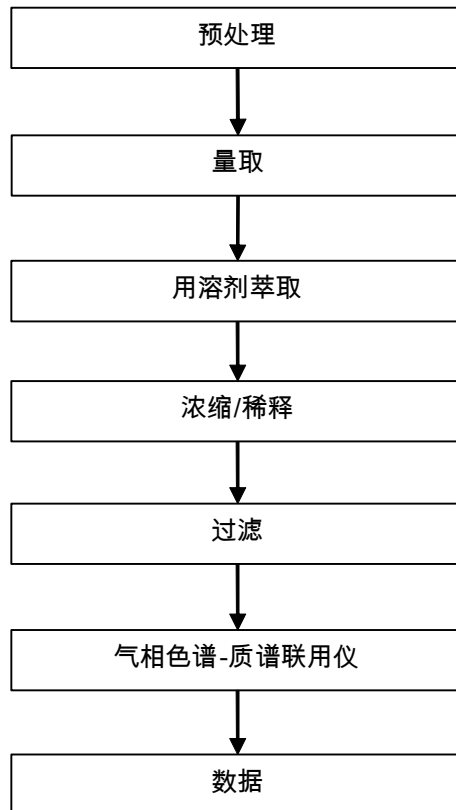
附件

### BPA 测试流程图



附件

Dimethyl Fumarate 测试流程图





样品照片:



此照片仅限于随SGS正本报告使用

\*\*\* 报告完 \*\*\*

