



深圳市(锦凌)电子有限公司
SHENZHEN(JILN)ELECTRONIC CO.,LTD

承 认 书

SPECIFICATION FOR APPROVAL

客户 (CUSTOMER): 凯雀

品名 (DESCRIPTION): 2.54FC-NPIN 三件式单面接触

料号 (PARTNO):

日期 (DATE): 2013.11.29

编号 (NO.): JL-13-11-29-1

工程部 ENGINEER DEPT	品管部 QA DEPT	审核 APPROVED BY
王志钢	陈美艳	欧阳辉



贵公司承认后, 请回签一份给厂司. 谢谢!

KINDLY RETURN ONE COPY OF THE SPECIFICATION AFTER APPROVAL

核对 CHECKED BY	确认 APPROVED BY

ADD: 深圳市宝安区西乡镇九围洲石路旁骏亿工业园B栋四楼

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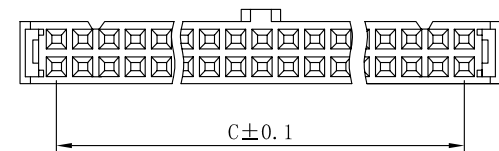
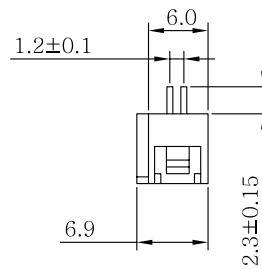
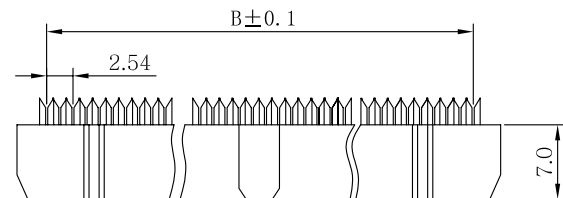
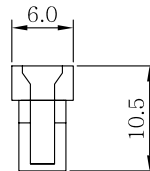
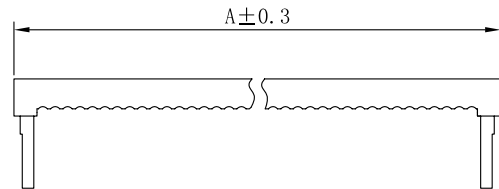
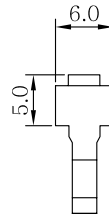
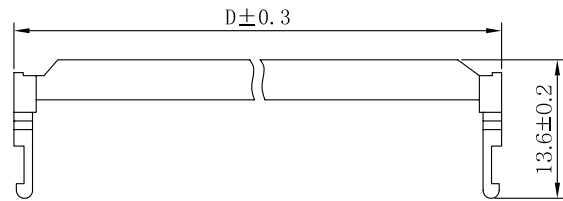
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No. of Contacts	DIMENSIONS			
	A	B	C	D
8	14.86	8.89	7.62	14.66
10	17.40	11.43	10.16	17.20
12	19.94	13.97	12.70	19.74
14	22.49	16.51	15.24	22.29
16	25.02	19.05	17.78	24.82
18	27.56	21.59	20.32	27.36
20	30.10	24.13	22.96	29.90
24	35.18	29.21	27.94	34.98
26	37.72	31.75	30.46	37.52
30	42.80	36.83	35.56	42.60
34	47.88	41.91	40.64	47.68
36	51.42	44.45	43.18	50.22
40	55.50	49.53	48.25	55.30
44	60.58	54.61	53.34	60.38
50	68.20	62.23	60.96	68.40
60	80.90	74.93	73.66	80.70

SPECIFICATIONS

Current Rating: 3 Amps
Withstanding Voltage: AC 1000V
Insulation Resistance: 1000M Ω Min
Contact Resistance: 20M Ω Max
Operation Temperature: -40° to +105°
Insulator Material: Polyester (UL94V-0)
Standard: PBT
Contact Material: Brass
Contact Plating: Ni over 50u" Ni
Max. Processing Temp: 180° C for 30-60 seconds
(200° C for 10 seconds)

5313-XX SO A T 01

No. of Pins Per Row	Contact Plating SN: Tin G0: Gold Flash G2: 1U" Gold G3: 10U" Gold G4: 15U" Gold G5: 30U" Gold S0: Gold Flash/Tin Standard: G0	Insulator Material Option A BK-PBT B BK-PA66 C BK-PA6T D BK-PA46 F KB-LCP S Special	Connector Type Y=Y Type T=T Type .
2--100			.
			.
			.
			.
			.
			.

JiLN® 深圳市锦凌电子有限公司
SHENZHEN JINLING ELECTRONICS CO., LTD
Tel: 86-755-2997-5818 Fax: 86-755-2997-5588

UNLESS OTHERWISE SPECIFIED TOLERANCE		DRAWN NAME:				2.54IDC-NPIN 单面接触三件式			
		SIZE	A4	SCALE	N:1	PRODUCT NO.			
X : ±0.3	X° : ±5°	REV	A	UNIT	mm	PROJECT			
X.X : ±0.2	X.X° : ±1°								
X.XX : ±0.1	X.XX° : ±0.5°								
CRAW:		CHECKED:		APPROVED:					
DATE:		DATE:		DATE:					



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1.SCOPE 適用範圍

This product specification defines the product performance and the test methods to ascertain the performance of the (2.54IDC)Connector ,which si designed and manufactured by JILN Electronic Co.,Ltd.This product specification is applicabie but not only for those part numbers which be shown in the cover page.

本產品規格書規定了由錦凌電子有限公司設計生產的（2.54IDC）型連接器，產品的特性及測試方法。本產品規格書適用於但不局限于封面所顯示的產品料號

2.REFERENCE DOCUMENTS 參考文件

MIL-STD-1344	Test method for electrical connector 電子連接器測試方法
MIL-STD-202	Test method for electrical connectors 電子零件測試方法
EIA364	Test method for electrical connectors 電子零件測試方法
JIS C 0051	Test method for electrical connectors 電子零件測試方法
MIL-G-45204C	Specification for gold plating 鍍金規格
IEC-512-3	IEC standard for current carrying capacity tests IEC 電流測試標準
QQ-N-290A	Specification for nickel plating 鍍鎳規格
MIL-P-81728A	Specification for tin/lead plating 鍍錫鉛規格
MIL-T-10727B	Specification for tin plating 鍍錫規格
UL498	UL standard for safety of attachment plug ang receptacle UL安規要求標準
EN/IS05961	Determination of total lead &cadmium content 總鉛和總鎘含量測定
EN1122	Determination of total lead &cadmium content 總鉛和總鎘含量測定
EN13346	Determination of heavy metals content 重金屬含量測定
EPA3052	Determination of total lead &cadmium content 總鉛和總鎘含量測定

3.FEATURE &DIMENSIONS 特征及特性

3.1.PRODUCT DIMENSION 產品尺寸

These connectors shall have the dimensions as shown in drawing.

本產品的相關尺寸參見圖面

3.2.PCB/panel layout 印刷電路板布局

The recommended PCB layout is shown in drawing.

本產品適用的 PCB layout 參見圖面。

3.3.BILL OF MATERIAL材料清單

Harmful material controlling follows the requirements of RoHS. The bill of material is described in drawing.

有害物質控制符合RoHS指令要求。本產品適用的材料參見圖面。



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3.4.MECHANICAL & ELECTRICAL CHARACTERISTIC 機械及電器特性

The connector shall have the mechanical and electrical performance as described in drawing.

本產品的機械及電器特性參見下方附表一（测试要求与方法）。

3.5.PACKAGING 包裝

Products shall be packaged according to requirements specified in purchase order for safe delivery,connector container and the packaging method are shown in package specification.

產品可依照客戶指定要求包裝，包裝材料與包裝方式參見產品包裝規範。

3.6.RATING CURRENT AND RATING VOLTAGE 額定電流與額定電壓

Rating current is (3.0)A, rating voltage is (1000)V DC/AC RMS.

額定電流 (3.0) A, 額定電壓 (1000) V DC/AC RMS.

3.7.STORAGE AND OPERATING TEMPERATURE 存儲與使用溫度

Temperature range:-(40)℃~+(105)℃, including terminal temperature rise for rating current.

溫度範圍: -(40)℃~+(105)℃, 包含接觸端子的額定電流溫升

4.Environmental 環境溫度

4.1.SOLDERABILITY 可焊性

Connectors meet solder-ability to MIL-STD-202,and shall be free of contaminants.

產品可焊性符合MIL-STD-202標準規定的相關要求，表面不得有污染物。

4.2.RESISTANCE TO SOLDER HEAT 耐焊接熱

4.2.1.WAVE SOLDER波峰焊接

Each cycle consists of three consecutive phases.

每個焊接周期包括三個連續階段。

4.2.1.1.Preheat預熱

The steady temperature of the preheat zone is 90~125℃

預熱區最終溫度控制在90~125℃

4.2.1.2.Soldering焊接

To avoid the secondary tin-melting,the temperature on PCB upper surface is 160℃ Max.for products with lead,or200℃ Max.for lead-free products. The temperature of the PCB bottom surface shall not be exceed 100℃ more than the temperature of the PCB upper surface. The peak temperature is during 230~255℃ for products with lead, or 255~270℃ for lead-free products.The tin dip time is duration for 3~10 seconds.

有鉛產品板面溫度不得超過160℃，無鉛產品板面溫度不得超過200℃，以防止貼片零件二次熔錫。板面溫度與板底的溫度溫差不得超過100℃。板下溫度峰值有鉛產品維持在230~250℃，無鉛產品控制在255~270℃。浸錫時間控制在3~10秒。



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4.2.1.3.Cool Down冷卻

Cool down shall not xceed 6℃ per second.
冷卻速度不超過6℃秒

Note:說明
Device temperature measurements are referenced from the top-center of the package outer surface
設備溫度量測時以從頂部中間位置測量為準.

5.PERFORMANCE AND TEST DESCRIPTION性能測試

5.1.REQUIREMENT 要求

Product is designed to meet electrical,mechanical,and environmental performance requirements specified in Table 1
本產品設計符合附表一所列的機械，電器及環境要求

5.2.TEST CONDITION 測試條件

Unless otherwise specified,all tests shall be performed at ambient environmental conditions.
除非特別注明，所有測試的室溫條件下完成

5.3.SAMPLE SELECTION 樣品選擇

Test samples shall be selected at random form current production.Notest samples shall be reused.Samples are pre-conditioned with 10cycles of durability.Each group shall be containing 5 test samples at least.
測試樣品從現生產的產品中隨機抽取，所有測試過的樣品不得重複使用。樣品以預先插拔10次，每組測試至少有5個樣品。

Table 1: Test Requirements and Methods

附表一：測試要求與方法

Items	Requirements	Test Methods
項目	要求	測試方法
1 Confirmation of Product 產品確認	Product shall be conforming to the requirements of applicable product drawing 品必須符合相關產品圖面的要求	Visually dimensions and functionally inspected per applicable product drawing. 產 依照產品相關圖面，檢查產品的外觀 尺寸及功能



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2 Contact Resistance 接觸阻抗	20 m Ω Max.Initial 初始状态最大20 m Ω	Subject mated contacts assembled in housing to closed circuit of 100 mA max.20 mV max. 所述固定在外殼里的端子連接到一個封閉回路中測試，電流100mA max,電壓20 mV max.
3 Insulation Resistance 絕緣阻抗	1000 M Ω Min 最小 1000 M Ω	Measure by applying test potential between the adjacent contacts,and between the contacts and ground in the mated connector . 測試產品相鄰端子間以及端子與接地間的電阻，
4 Dielectric Withstanding Voltage 耐電壓	Connector must withstand test potential of 1000 VAC RMS for 1 minute,No spark no smoking no breakdown. 產品必須承受測試電壓1000 VAC RMS，時間1分鐘，无火花无冒烟无击穿	Measure by applying test potential between the adjacent contacts,and between the contacts and ground in the mated connector . 對產品相鄰端子間以及端子與接地間加載電壓，并測試其漏電流。
5 Durability (Repeated Mating /Un-mating)持久性	Contact Resistance:35 m Ω Max.after testing. 測試后接觸電阻35 m Ω	Repeat mate and unmated for connector 250 cycles,at a speed of 2 cycles per 重複進行配合產品250次插拔，速度每分鐘2次.
6 Connector Pin Mating/Un-mating Force 單支端子插入/拔出力	Mating force:(0.8)N/Pin Max. Un-mating force:(0.15)N/Pin Min. 插入了最大 (0.8) N/Pin 拔出力最小 (0.15) N/Pin	At a speed of 25 \pm 3 mm/minute,apply axial insert the mating part into fully or pull out from the subject product. 以25 \pm 3mm/分鐘的速度，軸向完全插入對配插件到被測產品中或從被測產品中拔出.
7 Contact Retention Force 端子保持力	(5.0) N/Pin Min. 最小 (5.0) N/Pin	Apply axial pull out force at a speed of 25 \pm 3 mm/minute on the contact assembled in the housing. 以25 \pm 3mm/分鐘的速度施加軸向拉力從塑膠本體上拔出端子.
8 Solder-ability 可焊性	Appearance of the specimen shall be inspected after the test with the assistance of a magnification of 10 X for any damage such as pinholes,void or rough surface. 產品在測試完成后，在放大倍數為10倍的顯微鏡下，檢查外觀損壞如：小孔，空焊，外觀粗糙度等。	Soldering time:4 to 6 seconds. Temperature:260 \pm 5 $^{\circ}$ C 焊接時間：4-6秒. 溫度：260 \pm 5 $^{\circ}$ C



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9 Sait Spray 鹽霧	There is no blue-green corrosionproduct on plating is OK. 实验后镀层无蓝绿色腐蚀物或生锈现象为合格	5±1% salt concentration 8 huors 35±2℃ 鹽水溫度5±1%，時間8小時，溫度35±2℃ .
10 solder after steam aging 蒸气老化后焊锡	testing product isn't falling-off, broken,rust ,oxidation;Tin after,Solder plating is full and brilliance 实验品无脱落、龟裂、生锈、氧化、露出底材等不良现象；沾锡后，实验样品沾锡饱满、光泽、亮泽	Put products into steam aging machine of temperatur 98℃,Test water must be steam water or pure water,8 hours;Parts of samples is to dip soldering 将产品放入蒸气老化机，实验温度保持98℃，实验形成蒸气之用水必须为蒸馏水或纯净水8h;将蒸气老化实验品实验部分沾锡

6. 包装存储运输要求

- 1) 物料的包装对物料有一定的保护作用 and 密封作用，保证物料在运输过程中不会受到损坏。
- 2) 包装箱应满足防潮，防振、防压和防霉等要求。
- 3) 最小包装单元的标识必须有厂家商标、产品型号、名称、物料编码和数量。
- 4) 包装成箱的产品，应在环境温度为-10℃~+40℃，相对湿度在80%以下，周围空气中无酸性，碱性或其它腐蚀性气体的库房里贮存，在上述条件下，自生产日期能够半年贮存期，在这半年内物料仍为合格品。

东莞市启洋塑胶有限公司

地址: 广东省东莞市大岭山镇旧飞鹅村旧飞鹅大道旁1号厂房

TEL: 0769-85659989

FAX: 0769-85659189

[illegible]

材 质 证 明

[illegible]

厂商名称: 东莞市启洋塑胶有限公司

材质名称: PBT (Poly Butylene Terephthalate) 聚对苯二甲酸丁二醇酯

规格说明: PBT G25V0 黑色材质说明:

PBT G25V0 黑色成分含量：三菱 5010PBT 树脂 60%，玻璃纤维 25%，主阻燃剂 10%，辅阻燃剂 5%。

PBT G25V0 黑色成品不含以下材质：多氯联苯（PCB）、多氯化萘（PCN）、氯代烷烃（CP），灭蚊灵（Mirex）有机锡化合物、石棉、偶氮化合物、甲醛、聚氯乙烯以及聚氯乙烯混合物等。

PBT G25V0 黑色经 SGS 检测含有以下物质：铅（Lead(Pb)）<1000PPM 镉（Cadmium(Cd)）<100ppm, 汞（Mercury(Hg)）<1000PPM 六价铬（Chromium(CrVI)）<1000PPM 十溴联苯（PBBs）<1000PPM 十溴联苯醚（PBDEs）<1000ppm 符合欧盟环保要求。

制成品检(章): 何志发

佛山市德祥源金属材料有限公司产品品质保证书

本保证书希妥善保管,如对我公司的产品品质有异议,持保证书在一个
个月内与我公司联系,本公司将竭诚为您服务.

客户名称 科 特 ※

结算单号 QBB-518 ※

发货日期 2012-4-16※

产品批号 A001 ※

产品名称 黄铜带 ※

产品牌号 h65 ※

产品规格 0.4*15.5

产品状态 Y ※

产品数量 25件 ※

产品重量 1058.58 ※

质保部长 李娜 ※

检验员: 邓招秀 ※

执行标准: GB/T2059-2000

化学成分(%):

铜Cu	59	锌Zn	余量	铁Fe	0.003
锡Sn		磷P	/	铅Pb	0.003
铋Sb	/	硅Si	/	铋Bi	/
镍Ni	/	锰Mn	/	铝Al	/
银Ag	—/—	砷As	/	杂项总合	〈0.02

物理性能

抗拉强度N/mm2	639.1	延伸率%	/
杯突值	/	维氏硬度HV	182

表面质量与公差(mm):

厚度公差: ±0.005 宽度公差: 表面质量: 合格 OK

填表员: 麦建群 填表日期: 2012-5-16

Test Report

No. CANEC1302877301

Date: 14 Mar 2013

Page 1 of 7

DONGGUAN QIYANG PLASTIC CO.,LTD

JIU FEI DADAO, JIU FEI E VILLAGE, DALINGSHAN TOWN, DONGGUAN CITY, GUANGDONG PROVINCE

The following sample(s) was/were submitted and identified on behalf of the clients as : PBT PLASTIC PARTICLES

SGS Job No. : CP13-009619 - GZ
Date of Sample Received : 08 Mar 2013
Testing Period : 08 Mar 2013 - 14 Mar 2013
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).

Signed for and on behalf of
SGS-CSTC Ltd.



Almay Gao
Approved Signatory

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Test Report

No. CANEC1302877301

Date: 14 Mar 2013

Page 2 of 7

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	CAN13-028773.001	White grains+black grains

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

Elementary Analysis & Flame Retardants

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs content by GC-MS.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	mg/kg	2	ND
Lead (Pb)	mg/kg	2	ND
Mercury (Hg)	mg/kg	2	ND
Hexavalent Chromium (CrVI)	mg/kg	2	ND
Sum of PBBs	mg/kg	-	ND
Monobromobiphenyl	mg/kg	5	ND
Dibromobiphenyl	mg/kg	5	ND
Tribromobiphenyl	mg/kg	5	ND
Tetrabromobiphenyl	mg/kg	5	ND
Pentabromobiphenyl	mg/kg	5	ND
Hexabromobiphenyl	mg/kg	5	ND
Heptabromobiphenyl	mg/kg	5	ND
Octabromobiphenyl	mg/kg	5	ND
Nonabromobiphenyl	mg/kg	5	ND
Decabromobiphenyl	mg/kg	5	ND
Sum of PBDEs	mg/kg	-	ND
Monobromodiphenyl ether	mg/kg	5	ND

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Test Report

No. CANEC1302877301

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<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibromodiphenyl ether	mg/kg	5	ND
Tribromodiphenyl ether	mg/kg	5	ND
Tetrabromodiphenyl ether	mg/kg	5	ND
Pentabromodiphenyl ether	mg/kg	5	ND
Hexabromodiphenyl ether	mg/kg	5	ND
Heptabromodiphenyl ether	mg/kg	5	ND
Octabromodiphenyl ether	mg/kg	5	ND
Nonabromodiphenyl ether	mg/kg	5	ND
Decabromodiphenyl ether	mg/kg	5	ND

Hexabromocyclododecane (HBCDD)

Test Method : Determination of HBCDD by GC-MS based on IEC 62321:2008.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

Notes :

- (1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Hexabromocyclododecane (HBCDD) is considered as a priority for risk evaluation and substance restriction.

Phthalate

Test Method : Determination of phthalates by GC-MS based on EN 14372:2004.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibutyl Phthalate (DBP)	% (w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	% (w/w)	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	% (w/w)	0.003	ND

Notes :

- (1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.

Remark 1: Results shown are of the total weight of mixed samples.

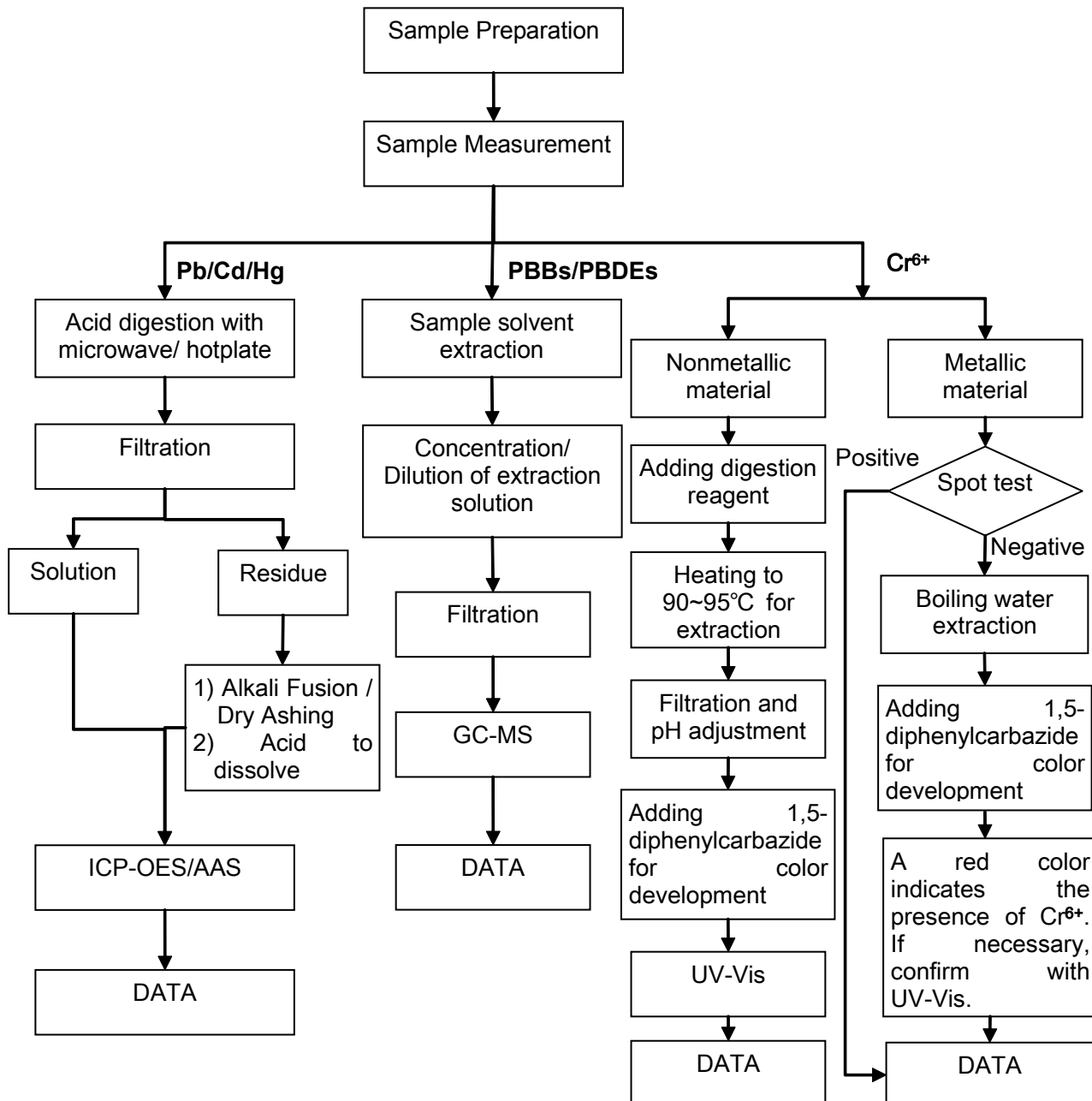
Remark 2: The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value and only for reference.

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ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Michael Tso / Cutey Yu
- 2) Name of the person in charge of testing: Adams Yu / Yolanda Wei
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr⁶⁺ and PBBs/PBDEs test method excluded).

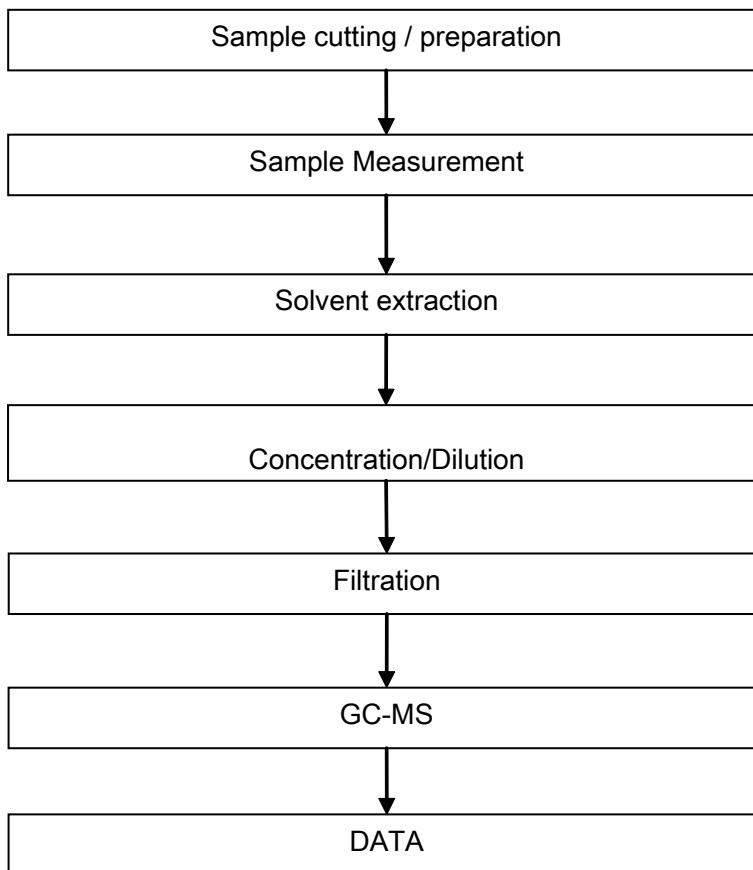


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ATTACHMENTS

HBCDD Testing Flow Chart

- 1) Name of the person who made testing: Cutey Yu
- 2) Name of the person in charge of testing: Yolanda Wei

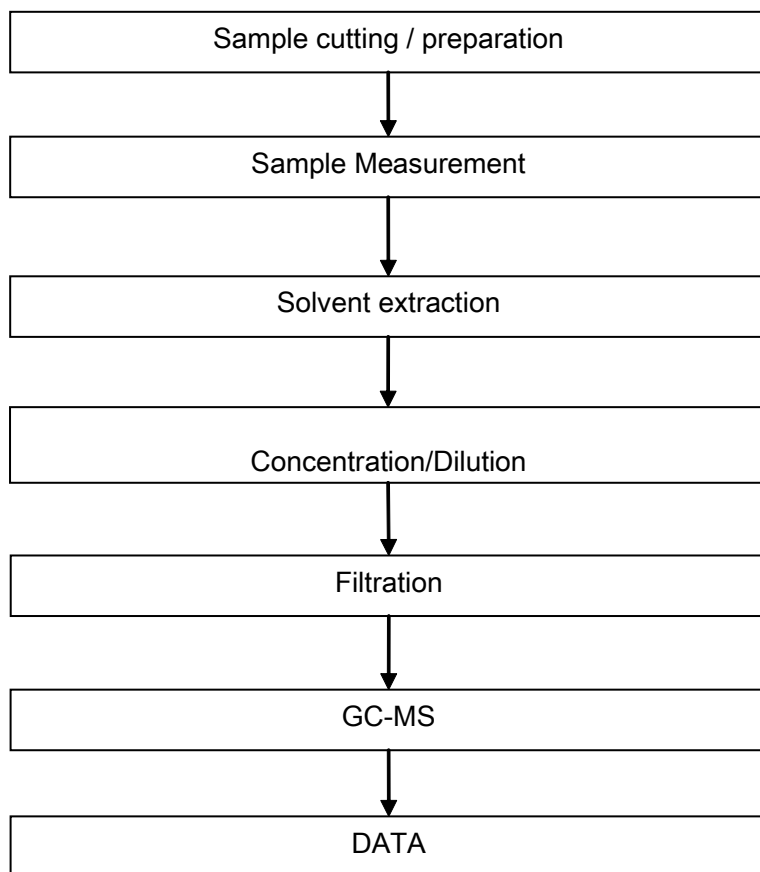


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ATTACHMENTS

Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Liu Qiong
- 2) Name of the person in charge of testing: Yolanda Wei



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Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

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Test Report

No. CANEC1300061901

Date: 10 Jan 2013

Page 1 of 6

FOSHAN DEXIANYUAN MATERIALS CO.,LTD.

1/F-2/F,20 EAST OF THE FOSHANDAQIAO TOLL STATION NORTH CHANCHENG,FOSHAN CITY

The following sample(s) was/were submitted and identified on behalf of the clients as : C2680

SGS Job No. : CP13-000087 - GZ

Date of Sample Received : 04 Jan 2013

Testing Period : 04 Jan 2013 - 10 Jan 2013

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.



Trophy Zhang
Approved Signatory

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Test Report

No. CANEC1300061901

Date: 10 Jan 2013

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	CAN13-000619.001	Brassy metal sheet

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive 2011/65/EU

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Spot test / Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	29
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	-	-	◇	Negative
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

Notes :

(1) The maximum permissible limit is quoted from the directive 2011/65/EU, Annex II

(2) ♦Spot-test:

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)

♦Boiling-water-extraction:

Negative = Absence of CrVI coating

Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid)

Test Method : With reference to US EPA Method 3550C: 2007, analysis was performed by HPLC-MS.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Perfluorooctane Sulfonates (PFOS) and related Acid,Metal Salt and Amide	mg/kg	10	ND
Perfluorooctanoic Acid (PFOA)	mg/kg	10	ND

Notes :

For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004:

(1) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS equal to or below 10 mg/kg (0,001 % by weight) when it occurs in substances or in preparations.

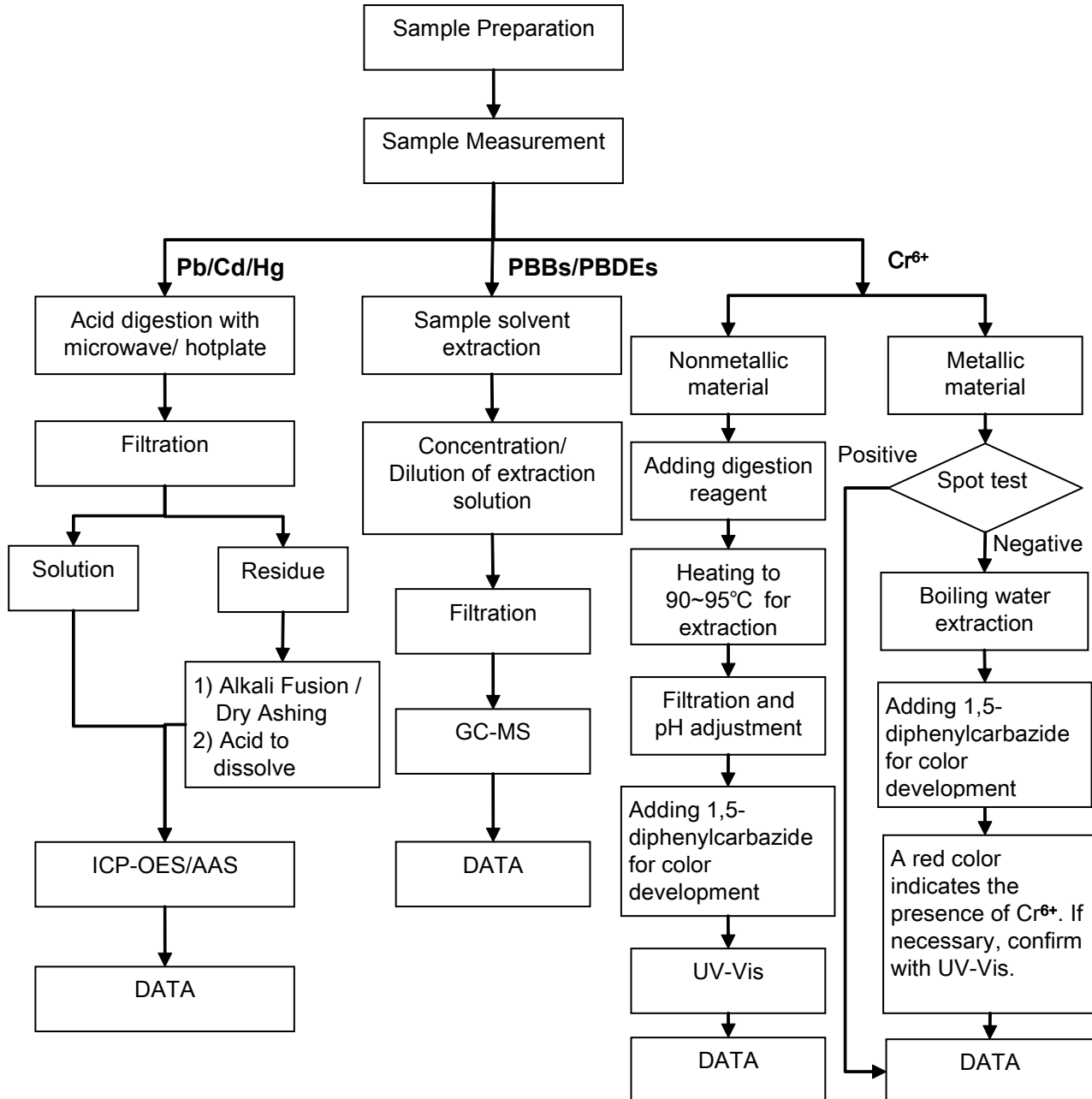
(2) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS in semi-finished products or articles, or parts thereof, if the concentration of PFOS is lower than 0,1 % by weight calculated with reference to the mass of structurally or micro-structurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is lower than 1µg /m² of the coated material.

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ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Michael Tso / Cutey Yu
- 2) Name of the person in charge of testing: Adams Yu / Yolanda Wei
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr⁶⁺ and PBBs/PBDEs test method excluded).

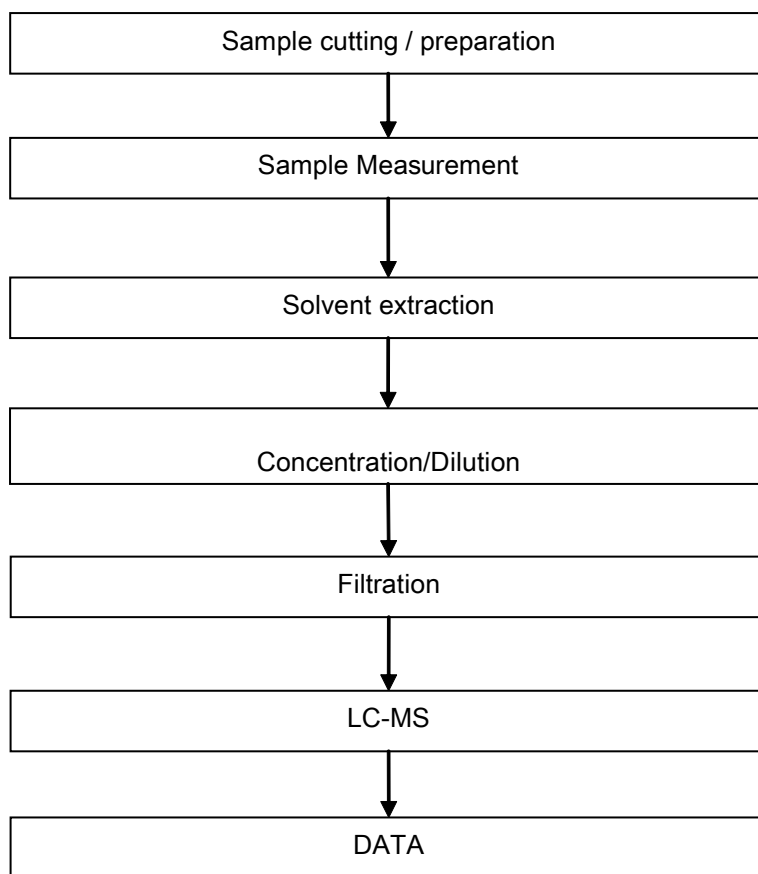


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ATTACHMENTS

PFOA / PFOS Testing Flow Chart

- 1) Name of the person who made testing: Tina Zhao
- 2) Name of the person in charge of testing: Yolanda Wei



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Test Report

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Sample photo:



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测试报告

No. CANML1307244601

日期: 2013年05月22日 第1页,共4页

深圳市嘉鸿泰实业有限公司

中国深圳市宝安区沙井镇共和村第六工业区A区28车间2栋3楼

以下测试之样品是由申请者所提供及确认: 镀金层

SGS工作编号: GC130502721 - GZ

内部编号: 3.1

样品接收日期: 2013年05月16日

测试周期: 2013年05月16日 - 2013年05月22日

测试要求: 根据客户要求测试

测试方法: 请参见下一页

测试结果: 请参见下一页

结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求。

通标标准技术服务有限公司

授权签名



Kenny Wang 王伟利

批准签署人

备注: 根据客户申请, SGS出具了此中文报告, 英文版本可根据客户要求提供. (The Chinese test report is issued according to the applicant's request. The English version is available from SGS if further needed)

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测试报告

No. CANML1307244601

日期: 2013年05月22日

第2页,共4页

测试结果:

测试样品描述:

样品编号	SGS样品ID	描述
1	CAN13-072446.001	带金色镀层的银色金属

备注:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = 检测极限值
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

RoHS指令2011/65/EU

测试方法: 参考IEC 62321:2008:

- (1) 用ICP-OES测定镉的含量
- (2) 用ICP-OES测定铅的含量
- (3) 用ICP-OES测定汞的含量
- (4) 用点测试法/紫外-可见分光光度计比色法测定六价铬的含量

测试项目	限值	单位	MDL	001
镉(Cd)	100	mg/kg	2	ND
铅(Pb)	1,000	mg/kg	2	10
汞(Hg)	1,000	mg/kg	2	ND
六价铬(Cr(VI))	-	-	◇	阴性

备注:

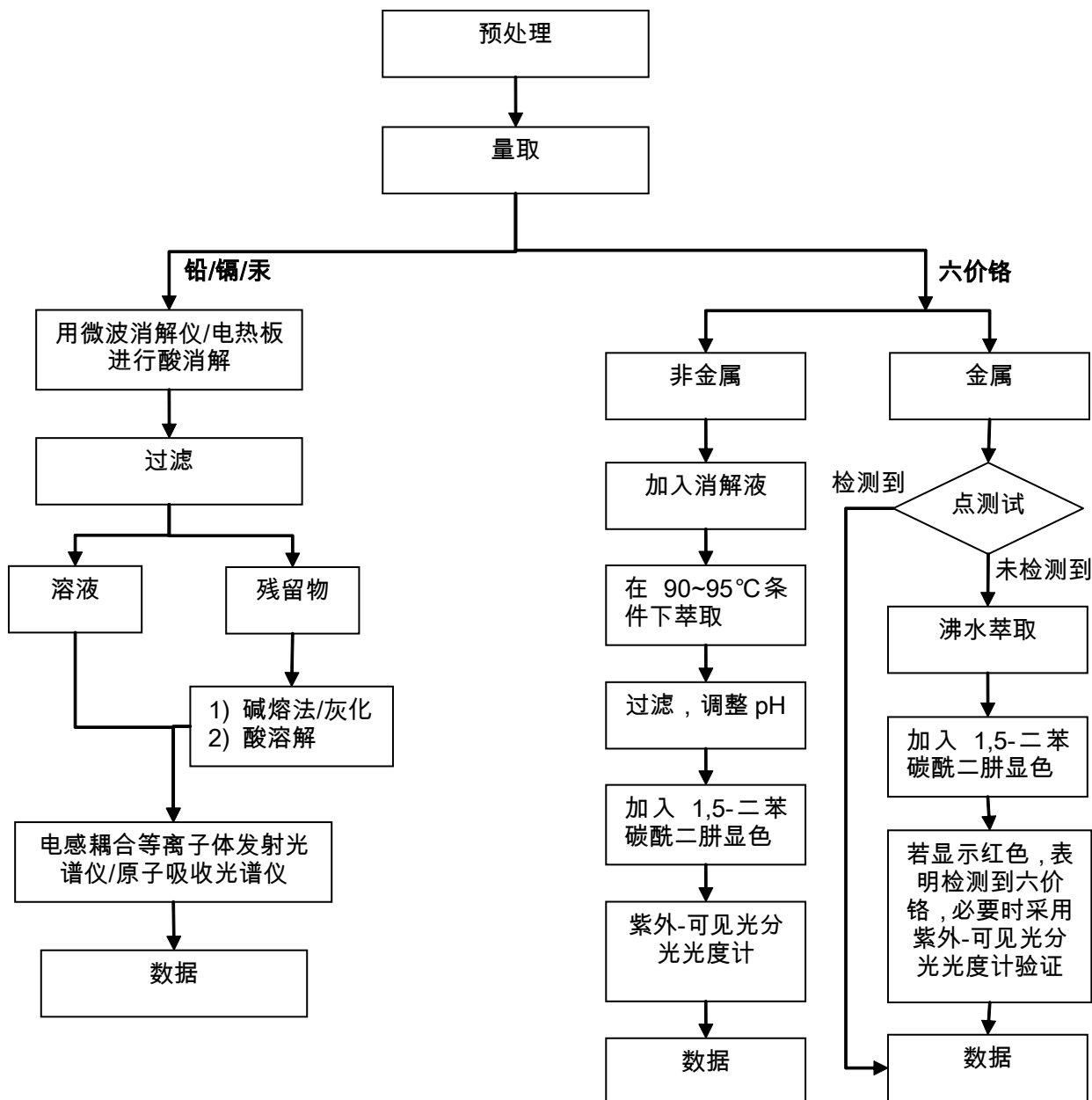
- (1) 最大允许限值引用自指令2011/65/EU 附录II.
 - (2) ◇点测试法:
 - 阴性= 未检测到六价铬, 阳性= 检测到六价铬;
 - (当点测试结果为阴性或无法确定时,将采用沸水萃取法作进一步的结果验证.)
 - ◇沸水萃取法:
 - 阴性= 未检测到六价铬
 - 阳性= 检测到六价铬; 表明50 cm²表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于0.02 mg/kg
- 由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

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附件

RoHS 测试流程图

- 1) 分析人员: 曹阳
- 2) 项目负责人: 余奕东
- 3) 样品按照下述流程被完全消解 (六价铬测试除外)。



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测试报告

No. CANML1307244601

日期: 2013年05月22日

第4页,共4页

样品照片:



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*** 报告完 ***

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测试报告

No. CANML1307244603

日期: 2013年05月22日

第1页,共4页

深圳市嘉鸿泰实业有限公司

中国深圳市宝安区沙井镇共和村第六工业区A区28车间2栋3楼

以下测试之样品是由申请者所提供及确认: 镀镍层

SGS工作编号: GC130502721 - GZ

内部编号: 3.3

样品接收日期: 2013年05月16日

测试周期: 2013年05月16日 - 2013年05月22日

测试要求: 根据客户要求测试

测试方法: 请参见下一页

测试结果: 请参见下一页

结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求。

通标标准技术服务有限公司

授权签名



Kenny Wang 王伟利

批准签署人

备注: 根据客户申请, SGS出具了此中文报告, 英文版本可根据客户要求提供. (The Chinese test report is issued according to the applicant's request. The English version is available from SGS if further needed)

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测试报告

No. CANML1307244603

日期: 2013年05月22日

第2页,共4页

测试结果:

测试样品描述:

样品编号	SGS样品ID	描述
1	CAN13-072446.003	带银色镀层的金属

备注:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = 检测极限值
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

RoHS指令2011/65/EU

测试方法: 参考IEC 62321:2008:

- (1) 用ICP-OES测定镉的含量
- (2) 用ICP-OES测定铅的含量
- (3) 用ICP-OES测定汞的含量
- (4) 用点测试法/紫外-可见分光光度计比色法测定六价铬的含量

测试项目	限值	单位	MDL	003
镉(Cd)	100	mg/kg	2	ND
铅(Pb)	1,000	mg/kg	2	37
汞(Hg)	1,000	mg/kg	2	ND
六价铬(Cr(VI))	-	-	◇	阴性

备注:

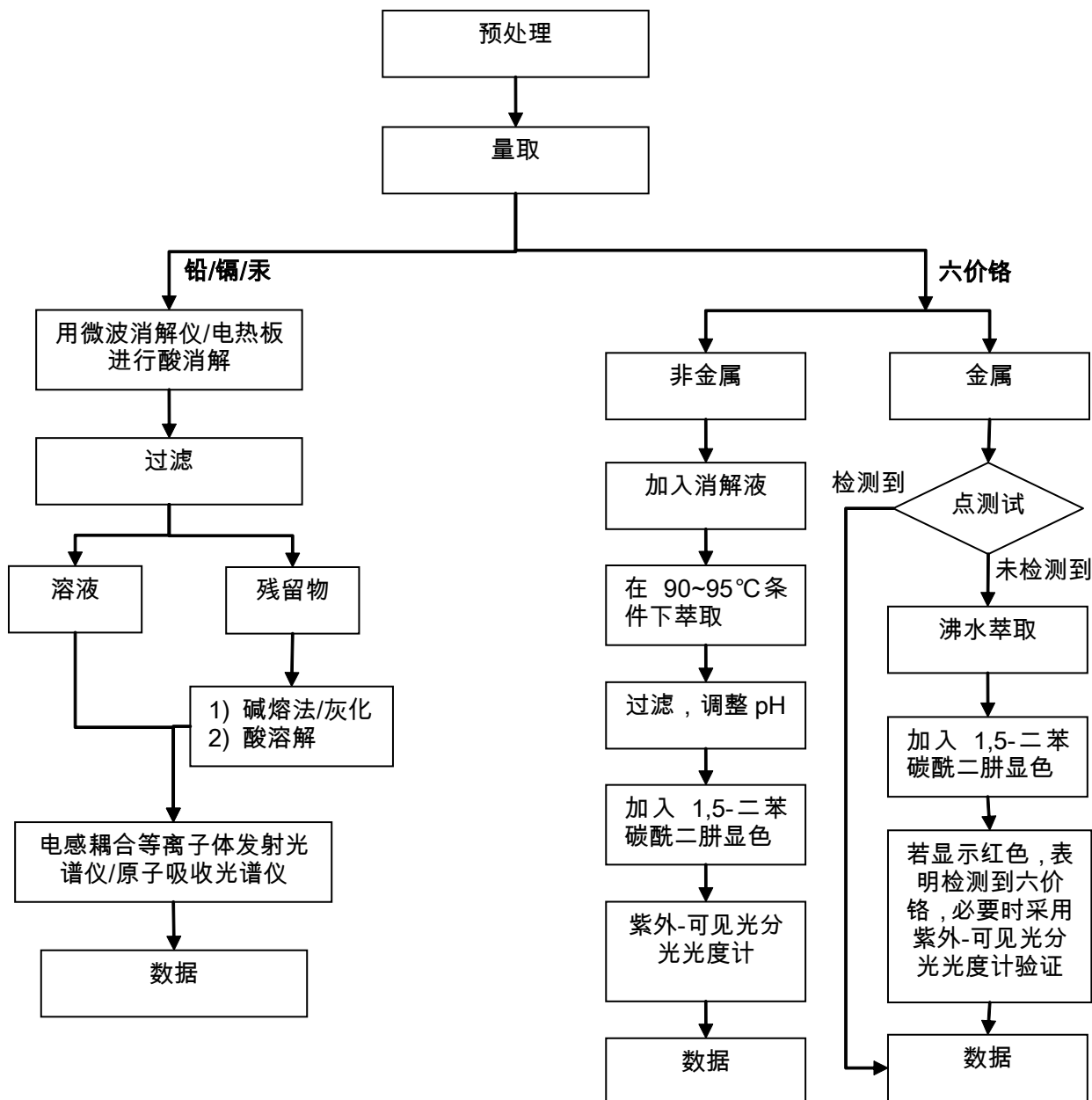
- (1) 最大允许限值引用自指令2011/65/EU 附录II.
 - (2) ◇点测试法:
 - 阴性= 未检测到六价铬, 阳性= 检测到六价铬;
 - (当点测试结果为阴性或无法确定时,将采用沸水萃取法作进一步的结果验证.)
 - ◇沸水萃取法:
 - 阴性= 未检测到六价铬
 - 阳性= 检测到六价铬; 表明50 cm²表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于0.02 mg/kg
- 由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

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附件

RoHS 测试流程图

- 1) 分析人员: 曹阳
- 2) 项目负责人: 余奕东
- 3) 样品按照下述流程被完全消解 (六价铬测试除外)。



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测试报告

No. CANML1307244603

日期: 2013年05月22日

第4页,共4页

样品照片:



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物質安全資料表

MATERIAL SAFETY DATE SHEET(MSDS)

供應商資料	物質名稱: PBT 塑膠粒						
	供應商名稱:東莞市启洋塑膠有限公司						
	地址:東莞市大嶺山鎮旧飛鵝村旧飞鵝大道旁 1 号厂房						
	電話: 0769-85669989			傳真: 0769-85659189			
	緊急聯絡人: 李利宜						
辨識資料	中英文名稱: 聚對苯二甲酸丁二醇酯(Poly Butylene Terephthalate)						
	主要危害物質成份			化學文摘 登記號碼 CAS NO:	濃度或濃度範圍(成份百分比)		
	成份名稱	化学式	含量(%)		時量平均容許濃度 TWA		短時間量平均容許濃度 STEL
	PBT 樹脂	無	60%	RTECS	1000mg/m3		1000mg/m3
	玻璃纖維		25%	65997-17-3			
	色粉		10%	1333-86-4			
	阻燃剂		5%	FR-100A			
危害辨識資料與急救措施	最重要危害效應				急救措施	急救措施	
	健康危害效應: 皮膚眼睛輕微不適					不同暴露途徑之急救方法: a 吸入:立即就醫清 清胃部;b:皮膚接觸:以肥皂水沖洗;c:眼睛接觸: 以大量清水沖洗再送醫治療	
	環境影響: 無					最重要危害效應: 皮膚眼睛輕度不適	
	物理性及化學與危害: 無					對急救人員防護: 無	
	特殊危害: 長期處其中可能會對肝、胃、甲狀腺有影響					對醫師提示: 無	
	主要症狀: 皮膚眼睛輕微不適						
	物品危險分類:暫未評價						
滅火措施	適用滅火器: 水、泡沫、乾粉化學滅火器						
	滅火時可能遭遇特殊危害: 無						
	特殊滅火程式: 撤離所有現場人員, 在沒有危險的情況下從火場移開						
	消防人員之特殊防護設備: 使用供氧式呼吸防毒器具						
泄 露 處 理 方 法	個人應注意事項: 若有塑膠粒殘留地面可能導致人體滑倒						
	環境注意事項: 防止銳器鈎穿色裝袋						
	清理方法: 地面清掃乾淨						
安全處 置與儲 存方法	處置: 陰涼處, 做好整理、整頓、清掃清潔、避免粉塵累積						
	儲存: 存放於遠離火源的地方應避免陽光照射並保持存放處空氣流通、防潮						
暴露預 防措施	工程控制: 無						
	參數控制: 無						
	個人防護設備: 無				眼睛防護: 最好戴上防護眼鏡		
	呼吸防護: 清洗成型機時戴防護口罩				皮膚與身體防護: 穿長袖工作服,經常清洗		
	手部防護: 接觸熔膠時戴皮手套						
	衛生防衛: 一般防護措施, 進食前洗手洗臉						

物理及化學性質	物質狀態： 顆粒	形狀： 圓柱顆粒
	顏色： 主要黑、蘭、灰、紅等	氣味： 無
	PH 值： 未測定	沸點/沸點範圍： 無
	自然溫度： 460°	閃火點：0 開杯 0 閉杯
	蒸氣壓：	爆炸界限： 無
		蒸氣密度： 無
	密度： 1.60	溶解度： 無

安定性及反應性	安定性：依一般操作及儲存方式時,安定性佳		
	特殊狀況下可能危害反應:長期處其中可能會對肝、 胃、 甲狀腺有影響		
	應避免之狀況： 不能吞食		
	危害分解物： 無		
毒性資料	急毒性： 無		
	局部效應： 無		
	慢毒性或長期毒性： 長期處其中可能會對肝、胃、甲狀腺有影響		
	特殊效應： 無		
生態資料	可能環境影響/環境流布： 嚴禁丟棄在海洋及水域、防水生物及鳥類攝食		
廢棄處置方法	廢棄處置方法： 適當掩埋法,焚化爐燃燒可能會產生有毒氣體 CO. NO 等		
運送資料	國際運送規定： 無危險分類		
	聯合國編號： 無		
	國內運送規定： 無危險分類		
	特殊運送方法及注意事項： 避免高溫、高壓、防火、防潮		
法規資料	適用法規:1.勞工安全衛生設施規則； 2.危險物及有害物質通訊規則； 3.勞工作業環境空氣中有害物容許濃度標準； 4.道路交通安全規則.		
其他	參考文獻： 無	名稱:東莞市启洋塑膠有限公司	
	製表單位:工程部	電話:0769-85659989	
		傳真:0769-85659189	
	製錶人：	職稱： 工程部文員	姓名： 蔣小萍
	製錶日期：	2012 年 06 月 8 日	

物質安全資料表

一、物品與廠商資料

物品名稱：黃銅帶材
物品編號：
供應商名稱、地址及電話：佛山市德祥源金屬材料有限公司 佛山市禪城區原大橋收費站東側 20 號一、二樓 0757-81820190
緊急聯絡電話/傳真電話： TEL: 0757-81820190/81820191

二、成分辨識資料

純物質：

中英文名稱：銅(Copper)
同義名稱：
化學文摘社登記號碼(CAS No.): 7440-50-8
危害物質成分(成分百分比)：

成分表：

物質名稱	含量	Cas No.	EINECS No. EINECS 登陸號
銅	64-68%	7440-50-8	231-159-6
鋅	余量	7440-66-6	231-175-3

三、危害辨識資料

最 重 要 危 害 效 應	健康危害效應： 眼睛、皮膚、吸入、食入在正常使用下安全。如接觸或吸入機械加工過程（如：打磨、切割等）中產生的粉末，可能引起眼睛、皮膚和呼吸系統刺激。
	環境影響： 无
	物理性及化學性危害：
	特殊危害：
主要症狀：	
物品危害分類：	



四、急救措施

不同暴露途径之急救方法：

- 吸入：立即移至通风良好处。如果呼吸停止，给与人工呼吸。如果呼吸困难，给与氧气。如果出现咳嗽和其他症状，就医。
- 皮膚接觸：立即用大量的水冲洗 15 分钟。如果症状未见好转，就医。
- 眼睛接觸：立即用大量的冲洗 15 分钟，时常提起眼睑。就医。
- 食入：如果患者有意识，催吐。如果患者无意识，切勿给入，就医。

最重要症狀及危害效應：

對急救人員之防護：

對醫師之提示：

五、滅火措施

適用滅火劑：水霧、化学干粉、二氧化碳、化学泡沫。

滅火時可能遭遇之特殊危害：

特殊滅火程序：

消防人員之特殊防護設備：任何火灾中，消防人员请穿着自我给氧装置的全式消防服。

六、洩漏處理方法

個人應注意事項：

環境注意事項：避免产生粉尘，提供通风。避免化学物质进入环境中。

清理方法：拾起/扫起该物质并置于合适的容器中。

七、安全處置與儲存方法

處置：使用时，适当通风。减少粉尘产生和堆积。切勿接触眼睛、皮肤或衣物。避免食入和吸入

儲存： 储存于凉爽干燥处。储存于密闭容器中。

八、暴露預防措施

工程控制：储存和使用该物质的场所需配备洗眼设备 and 安全淋浴。适当通风。

控制參數：



• 生物指標：

個人防護設備：

- 呼吸防護：如果发生过敏或者其他症状，使用合适的呼吸器或面罩。
- 手部防護：戴上合适的手套。
- 眼睛防護： 正常使用下无特殊要求
- 皮膚及身體防護： 正常使用下无特殊要求。

衛生措施：

九、物理及化學性質

物質狀態： 固体	形狀：
顏色： 黄色	氣味： 无
pH 值： 不适用	沸點/沸點範圍： 无可用数据
分解溫度：	閃火點： 不适用
	測試方法：
自燃溫度：	爆炸界限：
蒸氣壓： 不适用	蒸氣密度： 不适用
密度： 8.47g/cm3	溶解度： 936℃

十、安定性及反應性

安定性： 正常条件下稳定
特殊狀況下可能之危害反應：
應避免之狀況： 高温
應避免之物質： 强氧化剂,酸,碱
危害分解物：

十一、毒性資料

急毒性： 未被列入 NPT,IARC,或 OSHS 致癌物质
局部效應：
致敏感性：
慢毒性或長期毒性：
特殊效應：

十二、生態資料



可能之環境影響/環境流佈：无

十三、廢棄處置方法

廢棄處置方法： 废弃时,必须确定该物质是否属于危险废弃物.处置前应参阅国家和地方有关法规,以确保正确的废弃物归类.

十四、運送資料

國際運送規定： 该产品未被列为《国际般协危险品规则》；《国际海运危险货物规则》中的危险物质.

聯合國編號： 无

國內運送規定：

特殊運送方法及注意事項：

十五、法規資料

適用法規：	USA(TSCA):	listed 列入
	Canada(DSL)	listed 列入
	EINECS/ELINCS	listed 列入

十六、其他資料

參考文獻			
製表單位	名稱： 佛山市德祥源金属材料有限公司		
	地址/電話： 佛山市禅城区原大桥原收费站东侧 20 号一、二楼 0757-81820190		
製表人	職稱：	姓名(簽章)： 苏绰敏	
製表日期	2012-4-13		



三阶文件			
文件名称	镀金层 MSDS	版本/次	A/0
		生效日期	2011.03.01
文件编号	HLQI-QA-95	页码	1/2
整理：陈伟		审核：陈秀昌	核准：龙钦飞

一、成分辨别资料

危 害 性 成 分				
化学名称	含量%	化学文摘社登记	可容许暴露的界限	价值开始的界限
金	99%	—	—	—
钴	1%	—	—	—

二、危害辨别资料

进入人体之途径	■ 吞食 ■ 皮肤接触 ■ 吸入
健康危害效应	急性：无
	慢性：无
健康危害效应	
急性：吸入：在高温加工过程中，吸入此电镀产品逸出之气体会危害到呼吸器官。	
眼睛：无刺激。	
皮肤：高温熔融时会对皮肤造成烫伤。	
吞食：表现症状为消化不良	
慢性：——	

三、急救措施

急救方法
吸入：若吸入此电镀产品在高温加工过程中逸出之气体，将患者移到通风处，若有不适，立即就医。
皮肤接触：若接触到此电镀产品，以清水冲洗。
吞食：催吐，以清水漱口。

四、灭火措施：无（此电镀产品不会引发火灾。）

五、泄漏之紧急措施

注意事项：若此电镀产品残留于地上，立即清扫处理，以防人员跌倒。
清理方法：回收或报废。（依当地环保单位废弃物管理办法进行处理。）

六、处理与储存

处理：1、做好整理整顿以免混料，堆积。
2、已开封但未用完之料包，须封好避免与空气接触以免氧化。
3、作业温度不宜高于 1063℃ 摄氏度，人员须佩戴带防护设施，避免吸入蒸气、粉尘。
储存：存放在阴凉场所，避免阳光直射及雨淋。

七、曝露预防措施

个人防护：穿工作服。
眼部：——
呼吸：——
手部：接触产品时需使用手套或指套
个人卫生：1、工作场所禁止饮食。
2、处理本物质后须彻底洗手。
3、维持作业场所清洁。

三阶文件			
文件名称	镀金层 MSDS	版本/次	A/0
		生效日期	2011.03.01
文件编号	HLQI-QA-95	页码	2/2
整理：陈伟		审核：陈秀昌	核准：龙钦飞

八、物理及化学特性

物质状态：固体

外观：黄色

气味：无

熔点：1063℃

沸点：2807℃

爆炸界限：——

九、安定性及反应性

安定性：依一般操作及储存程序时，安定性佳。

危害分解物：强氧化剂、强酸、双氧水。

可能危害反应：——

十、毒性资料

急毒性：无

局部效应或皮肤腐蚀性：无

致敏感性或刺激性：无

慢毒性或长其毒性：无

特殊效应：无

十一、生态资料

严禁丢弃至海洋、水域或陆地。

十二、废弃物处理及处置

1、参考相关的法规处理。

2、依照仓储条件储存待处理的废弃物。

3、采用集中回收处理。

十三、运送资料

运输时包装要完整，运输过程中应防止雨淋，不可与食用物品共贮混运。

十四、适用法则

标示：

危害警告讯息：无

危害防范措施：1、置于干燥通风且处于密封状态。

2、远离高温。

3、配戴手套或指套作业。

适用法则：1、劳动安全卫生设施规则。

2、危险物与有害物有物通识规则。

3、事业废弃物储存清除处理办法及设施标准。

三级文件			
文件名称	镀镍层 MSDS	版本/次	A/0
		生效日期	2011.03.01
文件编号	HLQI-QA-94	页码	1/2
整理：陈伟		审核：陈秀昌	核准：龙钦飞

一、成分辨别资料

危 害 性 成 分				
化学名称	含量%	化学文摘社登记	可容许暴露的界限	价值开始的界限
镍	99.98%	—	—	—
镍光泽剂	0.02%	—	1mg/m ³	1mg/m ³

二、危害辨别资料

进入人体之途径	■ 吞食 ■ 皮肤接触 ■ 吸入
健康危害效应	急性：无
	慢性：无
健康危害效应	
急性：吸入：在高温加工过程中，吸入此电镀产品逸出之气体会危害到呼吸器官。	
眼睛：无刺激。	
皮肤：高温熔融时会对皮肤造成烫伤。	
吞食：表现症状为消化不良	
慢性：——	

三、急救措施

急救方法
吸入：若吸入此电镀产品在高温加工过程中逸出之气体，将患者移到通风处，若有不适，立即就医。
皮肤接触：若接触到此电镀产品，以清水冲洗。
吞食：催吐，以清水漱口。

四、灭火措施：无（此电镀产品不会引发火灾。）

五、泄漏之紧急措施

注意事项：若此电镀产品残留于地上，立即清扫处理，以防人员跌倒。
清理方法：回收或报废。（依当地环保单位废弃物管理办法进行处理。）

六、处理与储存

处理：1、做好整理整顿以免混料，堆积。
2、已开封但未用完之料包，须封好避免与空气接触以免氧化。
3、作业温度不宜高于 1453℃摄氏度，人员须佩戴带防护设施，避免吸入蒸气、粉尘。
储存：存放在阴凉场所，避免阳光直射及雨淋。

七、曝露预防措施

个人防护：穿工作服。
眼部：——
呼吸：——
手部：接触产品时需使用手套或指套。
皮肤及身体防护：衣物。
个人卫生：1、工作场所禁止饮食。
2、处理本物质后须彻底洗手。
3、维持作业场所清洁。

三级文件			
文件名称	镀镍层 MSDS	版本/次	A/0
		生效日期	2011.03.01
文件编号	HLQI-QA-94	页码	2/2
整理：陈伟		审核：陈秀昌	核准：龙钦飞

八、物理及化学特性

物质状态：固体
外观：银白
气味：无
熔点：1453℃
沸点：2732℃
爆炸界限：——

九、安定性及反应性

安定性：依一般操作及储存程序时，安定性佳。
危害分解物：强氧化剂、强酸、双氧水。
可能危害反应：——

十、毒性资料

急毒性：无
局部效应或皮肤腐蚀性：无
致敏感性或刺激性：无
慢毒性或长其毒性：无
特殊效应：无

十一、生态资料

严禁丢弃至海洋、水域或陆地。

十二、废弃物处理及处置

1、参考相关的法规处理。
2、依照仓储条件储存待处理的废弃物。
3、采用集中回收处理。

十三、运送资料

运输时包装要完整，运输过程中应防止雨淋，不可与食用物品共贮混运。

十四、适用法则

标示：
危害警告讯息：无
危害防范措施：1、置于干燥通风且处于密封状态。
2、远离高温。
3、配戴手套或指套作业。
适用法则：1、劳动安全卫生设施规则。
2、危险物与有害物有物通识规则。
3、事业废弃物储存清除处理办法及设施标准。