1.25T SERIES

Scope: This specification covers the 1.25mm spacing WIRE TO BOARD/WIRE TO WIRE connector series.

Index: Page

FILE NO	ENS008	APPROVAL	CHECK	DRAWING
ECR/N B	New spec			

[1. Product name and part number]

Product Name	Part Number
Terminal	1.25T-1-T
Pin-Terminal	1.25T-1-T(对插)
Housing	1.25T-1-NY
Receptacle Housing (For Pin-Terminal)	1.25T-1-NY(对插)
Wafer Assembly ST. (DIP/SMT)	1.25T-1-NA/1.25T-1-LT-NA/1.25T-1-LT-NA-B(C)
Wafer Assembly R.A (DIP/SMT)	1.25T-1-NAW/1.25T-1-WT-NA

[2. Ratings and applicable wires]

ITEM	STANDARD
Rated Voltage	125V DC/AC (rms)
Rated Current	1A (AWG. #28)
Applicable wires	AWG. #28 ~ #32
Insulation O.D	Ø1.0mm (max.)
Ambient Temperature	-40°C ~ +85°C *

* : Including terminal temperature rise.

[3. Performance]

3-1. Electrical Performance

ITEM		Test condition	Requirement
3-1-1	Contact resistance	Mate connectors, measure by dry circuit, 20mV(max.), 10mA. Mated Length : 50mm (AWG. #28) (Based upon JIS C5402 5.4)	20mΩ (max.)
3-1-2	Insulation resistance	Mate connectors, apply 500VDC between adjacent terminals. (Based upon JIS C5402 5.2/MIL-STD-202 method 302 Cond.B)	100MΩ (min.)
3-1-3	Dielectric strength	Mate connectors, apply 250VAC for 1 minute between adjacent terminals. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No breakdown and flashover
3-1-4	Contact resistance on crimped portion	Crimp the maximum applicable wire on to the terminal, measure by dry circuit, 20mV(max.), 10mA. Wire Length : 50mm (AWG. #28)	20mΩ (max.)

3-2. Mechanical Performance

ITEM		Test condition	Requirement
3-2-1	Insertion force and withdrawal force	Mate and unmate the connectors at a speed of 25±3mm/minute.	Refer to paragraph 5

3-2-2	Crimping pull out force	Fix the crimped terminal, apply axial pull out force on the wire at a speed of 25±3mm/min. (Based upon JIS C5402 6.8)	Wire size / #28 / #30 / #32 1 width: 0.9±0.1 1 height: 0.45 ~0.55 / 0.40 ~0.50 / 0.35 ~0.45 2 width: 0.97 2 height: 1.35 / 1.22 / 1.13 Crimp strength: 1.0kgf min / 0.8kgf min / 0.5kgf min 1: CONDUCTOR(mm) 2: INSULATION(mm)
3-2-3	Terminal insertion force	Insert the crimped terminal into the housing at a speed of 25±3mm/min.	0.5kgf (max.)
3-2-4	Terminal/ Housing retention force	Apply axial pull out force at a speed of 25±3mm/min. on the terminal assembled In the housing.	0.5kgf (min.)
3-2-5	Pin retention force	Apply axial push force at a speed of 25±3mm/minute on the contact pin assembled in the base wafer.	0.5kgf (min.)

3-3. Environmental Performance and Others

ITEM		Test condition	Requirement	
3-3-1	Repeated insertion/ withdrawal	Mate connector up to 30 cycles repeatedly at a rate of 10 cycles/ minute. After which test the contact resistance	Contact resistance	40mΩ (max.)
3-3-2	Temperature rise	Apply rated current load on mated connector in series-connection. Measure change of temperature on contact using thermocouples for 4 hours. (Based upon UL 1977)		30°C (max.)
3-3-3	Vibration	Amplitude: 1.52mm Sweep time: 10-55-10Hz/minute Duration: 2 Hours in each X、Y、Z axlals. (Based upon MIL-STD-202 method 201A)	Appearance	No Damage
			Contact Resistance	40mΩ(max.)
			Discontinui-t y	1μ sec (max.)
3-3-4	Shock	50G, 3 strokes in each X、Y、Z. axlals. (Based upon JIS C0041/MIL-STD-202 method 213B Cond.A)	Appearance	No Damage
			Contact Resistance	40mΩ(max.)
			Discontinuity	1μ sec (max.)
3-3-5	Heat resistance	Mated connector shall be placed in an oven for 96±4 hours at +85±2°C. (Based upon JIS C5402 7.8)	Appearance	No Damage
			Contact Resistance	40mΩ(max.)
3-3-6	Cold resistance	Mated connector shall be placed in a temperature chamber for 96±4 hours at -40±3°C (Based upon JIS C5402 7.9)	Appearance	No Damage
			Contact Resistance	40mΩ(max.)

3-3-7	Humidity	Mated connector shall be placed in a humidity chamber on the following conditions. Temperature: 40±2°C Relative humidity: 90~95% Duration : 96 Hours (Based upon JIS C0022/MIL-STD-202 Method 103B Cond.B)	Appearance	No Damage
			Contact Resistance	40mΩ(max.)
			Dielectric strength	Must meet 3-1-3
			Insulation resistance	10MΩ (min.)
3-3-8	Temperature cycling	Mated connector shall be set to temperature cycling for 5 cycles of which 1 cycle consists of: 1>.+25°C ~ 3 minutes 2>.-40°C ~ 30 minutes 3>.+25°C ~ 3 minutes 4>.+85°C ~ 30 minutes (Based upon JIS C5402 7.2)	Appearance	No Damage
			Contact Resistance	40mΩ(max.)
			Dielectric strength	Must meet 3-1-3
			Insulation resistance	10MΩ (min.)
3-3-9	Salt spray	Mated connector shall be placed in a salt spray chamber on the following conditions. Salt Solution Density : 5±1% Temperature : 35±2°C Duration : First punch,second plate:24±4 Hours First plate,second punch:8±2 Hours Remarks : we make sure the important area	Appearance	No Damage
			Contact Resistance	40mΩ(max.)
3-3-10	Solderability	Immerse fluxed soldered section of contact pin into a solder bath for 3±0.5sec temperature: 230±5°C	95% of immersed area must show no voids nor pin holes.	
3-3-11	Resistance to soldering heat	Mated connector shall be dipped on solder bath for 5±0.5sec temperature: 260±5°C	No Damage in appearance	

[4. Insertion force and withdrawal force]

[UNIT:Kgf]

Circuits	Insertion (max.)	Withdrawal (min.)		
	Initial	Initial	10th	30th
2	2.0	0.28	0.23	0.18
3	2.5	0.30	0.25	0.20
4	3.0	0.33	0.28	0.23
5	3.5	0.38	0.33	0.28
6	4.0	0.43	0.38	0.33
7	4.5	0.48	0.43	0.38
8	5.0	0.53	0.48	0.43
9	5.5	0.56	0.51	0.46

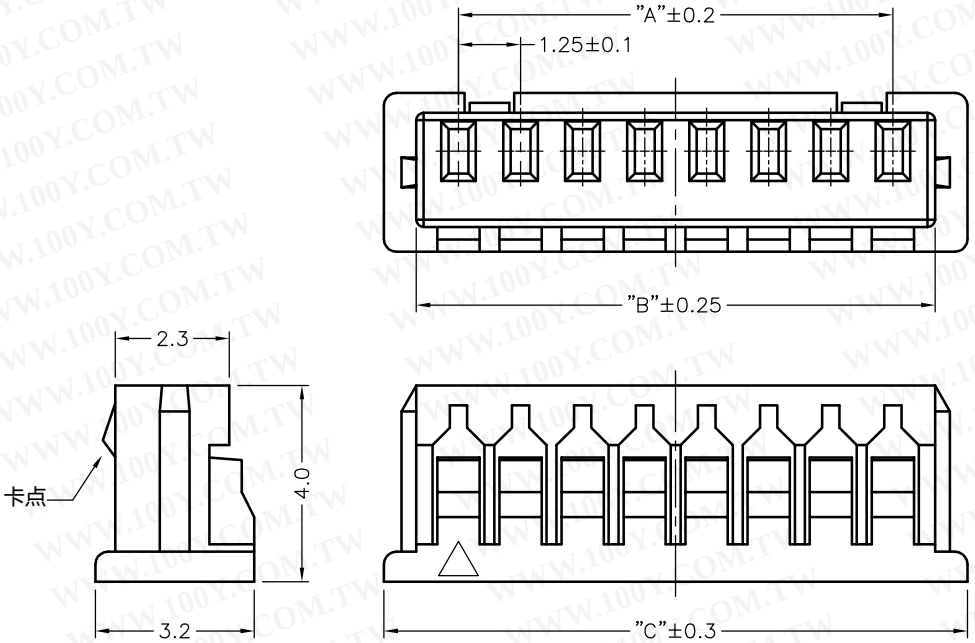
[UNIT:Kgf]

Circuits	Insertion (max.)	Withdrawal (min.)		
	Initial	Initial	10th	30th
10	6.0	0.59	0.54	0.49
11	6.5	0.62	0.57	0.52
12	7.0	0.65	0.60	0.55
13	7.5	0.68	0.63	0.58
14	8.0	0.71	0.66	0.61
15	8.5	0.74	0.69	0.64

[5. Product shape, Dimensions and materials]

<REFER TO THE DRAWING>

Poles	DIM.A	DIM.B	DIM.C
2P	1.25	2.95	4.25
3P	2.50	4.20	5.50
4P	3.75	5.45	6.75
5P	5.00	6.70	8.00
6P	6.25	7.95	9.25
7P	7.50	9.20	10.50
8P	8.75	10.45	11.75
9P	10.00	11.70	13.00
10P	11.25	12.95	14.25
11P	12.50	14.20	15.50
12P	13.75	15.45	16.75
13P	15.00	16.70	18.00
14P	16.25	17.95	19.25
15P	17.50	19.20	20.50
16P	18.75	20.45	21.75



注：2P~3P：一个卡点
4P~16P：两个卡点

■ 技术参数 SPECIFICATIONS

- ◆ 适用线规: AWG#28~#32
  Applicable Wire: AWG#28~#32
- ◆ 额定电压: 125V DC/AC(rms)
  Rated voltage: 125V DC/AC(rms)
- ◆ 额定电流: 1A (AWG #28)
  Rated Current: 1A (AWG #28)
- ◆ 耐压值: 250V AC/minute
  Withstand voltage: 250V AC/min.
- ◆ 工作温度: −40℃ ~ +85℃
  Working Temp : −40℃ ~ +85℃
- ◆ 绝缘电阻: ≥100 MΩ
  Insulation resistance: ≥100 MΩ
- ◆ 接触电阻: ≤20 mΩ
  Contact resistance: ≤20 mΩ

■ 材料 MATERIAL

- ◆ 绝缘体: 尼龙66, UL94−V0
  Insulator: PA66, UL94−V0

DongGuan JinDa Electronics Co., Ltd.

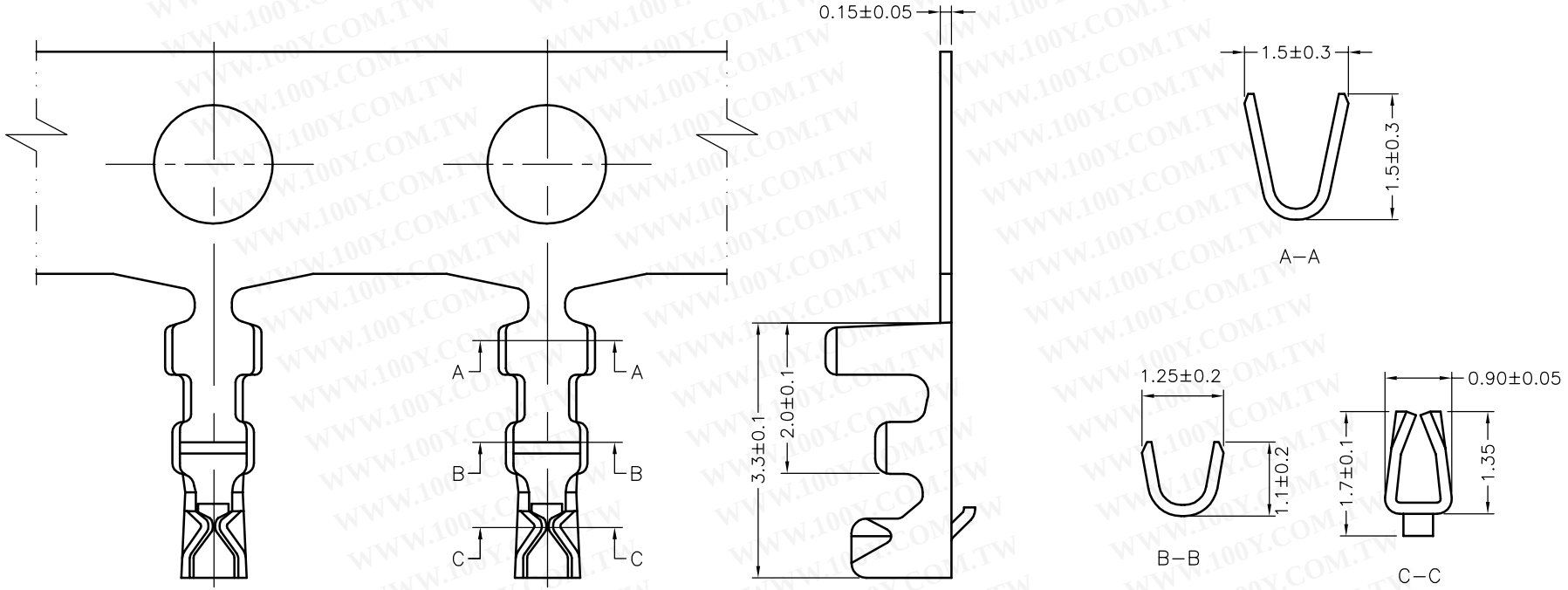
GENERAL TOLERANCE	
XX. ±0.40	
X. ±0.30	
.X ±0.25	X.° ± 2°
.XX ±0.15	.X° ± 1°

SCALE: 7:1	DRAWN: 柴艳妮	DATE: 2014.7.2	DOC. NO: JD-Y-E020	TITLE: 工程图	REV. B
UNIT: mm	CHECK: 于 腾	DATE: 2014.7.2	PARTS NO: 1.25T-1-NY		SHEET: 1/1
SIZE: A4	APPROVE: 肖志军	DATE: 2014.7.2			

DWG NO: E:\DWG\Production\1.25T

Notes:

1. MATERIAL: PHOSPHOR BRONZE,JIS C5191R-H, HV 200°±5°
2. Finish: Tin-plating
3. Wire range: AWG #28~#32



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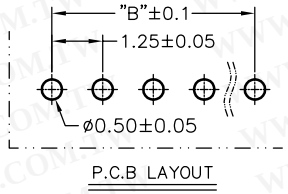
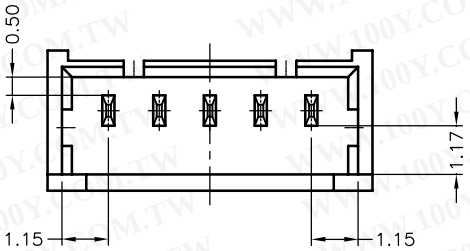
	XX. ±0.40		UNIT: mm	CHECK: 于 腾	DATE: 2015.6.27			
	X. ±0.30					PARTS NO: 1.25T-1-T		SHEET: 1/1
	.X ±0.25	X.° ± 2°	SIZE: A4	APPROVE: 肖志军	DATE: 2015.6.27			
	.XX ±0.15	.X° ± 1°						

Poles	DIM.A	DIM.B
2P	4.25	1.25
3P	5.50	2.50
4P	6.75	3.75
5P	8.00	5.00
6P	9.25	6.25
7P	10.50	7.50
8P	11.75	8.75
9P	13.00	10.00
10P	14.25	11.25
11P	15.50	12.50
12P	16.75	13.75
13P	18.00	15.00
14P	19.25	16.25
15P	20.50	17.50
16P	21.75	18.75



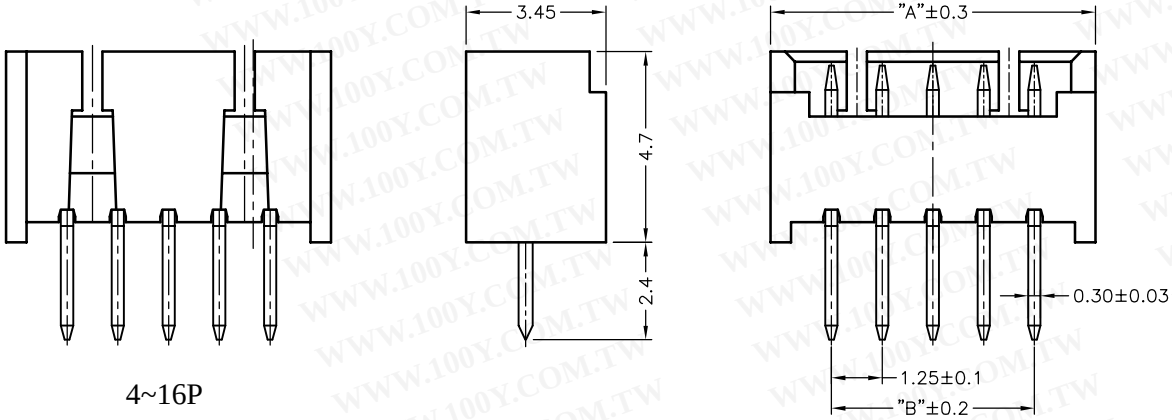


■ 技术参数 SPECIFICATIONS

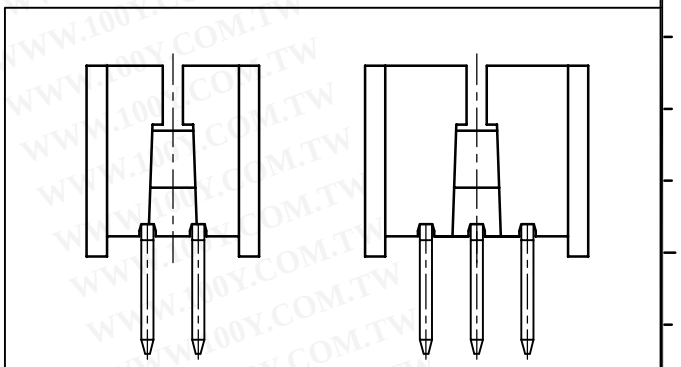
- ◆ 适用线规: AWG. #28~#32
  Applicable Wire: AWG. #28~#32
- ◆ 额定电压: 125V DC/AC(rms)
  Rated voltage: 125V DC/AC(rms)
- ◆ 额定电流: 1A (AWG. #28)
  Rated Current: 1A (AWG. #28)
- ◆ 耐压值: 250V AC/minute
  Withstand voltage: 250V AC/min.
- ◆ 工作温度: −40℃ ~ +85℃
  Working Temp : −40℃ ~ +85℃
- ◆ 绝缘电阻: ⩾100 MΩ
  Insulation resistance: ⩾100 MΩ
- ◆ 接触电阻: ⩽20 mΩ
  Contact resistance: ⩽20 mΩ

■ 材料 MATERIAL

- ◆ 绝缘体: 尼龙46, UL94−V0
  Insulator: PA46, UL94−V0
- ◆ 接触针: 磷铜
  Contact PIN: Phosphor bronze



4~16P



2P 3P

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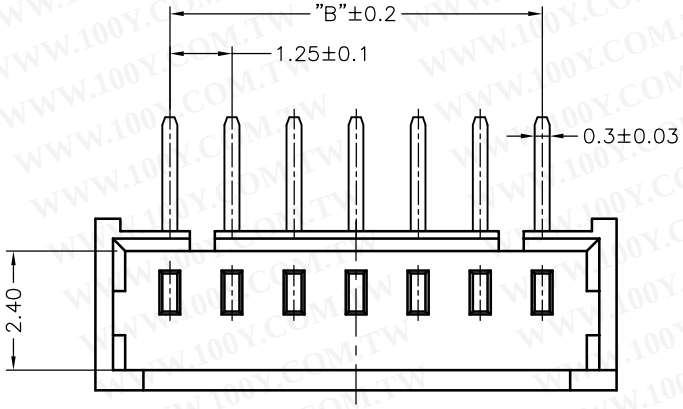
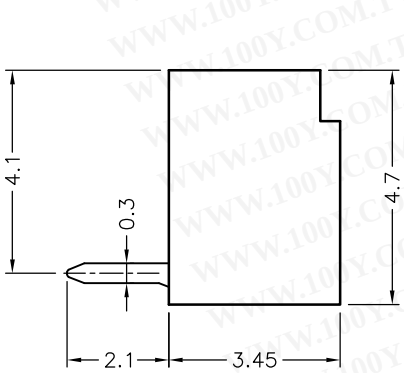
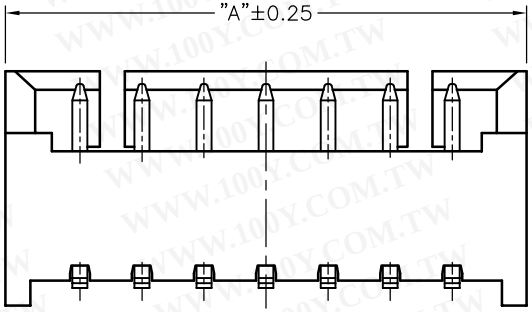
	XX. ±0.40		UNIT: mm	CHECK: 于 腾	DATE: 2014.11.7			
	X. ±0.30					PART NO: 1.25T-1-NA		SHEET: 1/1
	.X ±0.25	X.° ± 2°	SIZE: A4	APPROVE: 肖志军	DATE: 2014.11.7			
	.XX ±0.15	.X° ± 1°						

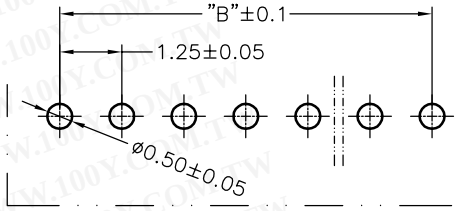
DWG NO: E:\DWG\Production\1.25T

Poles	DIM.A	DIM.B
2A	4.25	1.25
3A	5.50	2.50
4A	6.75	3.75
5A	8.00	5.00
6A	9.25	6.25
7A	10.50	7.50
8A	11.75	8.75
9A	13.00	10.00
10A	14.25	11.25
11A	15.50	12.50
12A	16.75	13.75
13A	18.00	15.00
14A	19.25	16.25
15A	20.50	17.50
16A	21.75	18.75









P.C.B LAYOUT

■ 技术参数 SPECIFICATIONS

- ◆ 适用线规: AWG#28~#32
  Applicable Wire: AWG#28~#32
- ◆ 额定电压: 125V DC/AC(rms)
  Rated voltage: 125V DC/AC(rms)
- ◆ 额定电流: 1A (AWG #28)
  Rated Current: 1A (AWG #28)
- ◆ 耐压值: 250V AC/minute
  Withstand voltage: 250V AC/min.
- ◆ 工作温度: −40℃ ~ +85℃
  Working Temp : −40℃ ~ +85℃
- ◆ 绝缘电阻: ≥100 MΩ
  Insulation resistance: ≥100 MΩ
- ◆ 接触电阻: ≤20 mΩ
  Contact resistance: ≤20 mΩ

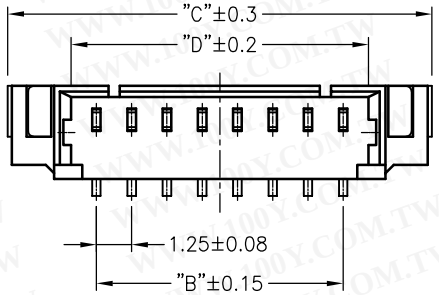
■ 材料 MATERIAL

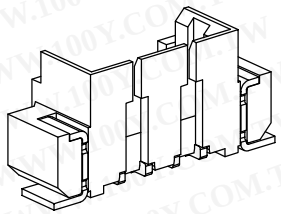
- ◆ 绝缘体: 尼龙46, UL94−V0
  Insulator: Nylon46, UL94−V0
- ◆ 接触针: 磷铜
  Contact PIN: Phosphor bronze

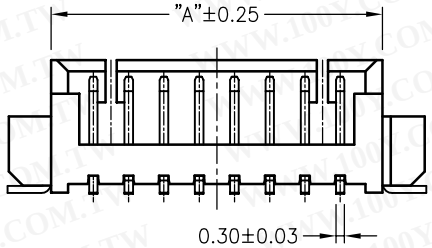
JINDA® DongGuan JinDa Electronics Co., Ltd.	GENERAL TOLERANCE		SCALE: 7:1	DRAWN: 柴艳妮	DATE: 2013.11.7	DOC. NO: JD-Y-E024	TITLE: 工程图	REV. B
	XX. ±0.40		UNIT: mm	CHECK: 于 腾	DATE: 2013.11.7	PARTS NO: 1.25T-1-NAW		SHEET: 1/1
	X. ±0.30		SIZE: A4	APPROVE: 肖志军	DATE: 2013.11.7			
	.X ±0.25	X.° ± 2°						
	.XX ±0.15	.X° ± 1°						

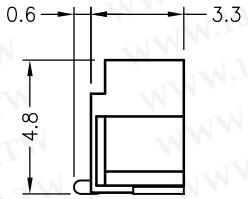
DWG NO: E:\DWG\Production\1.25T

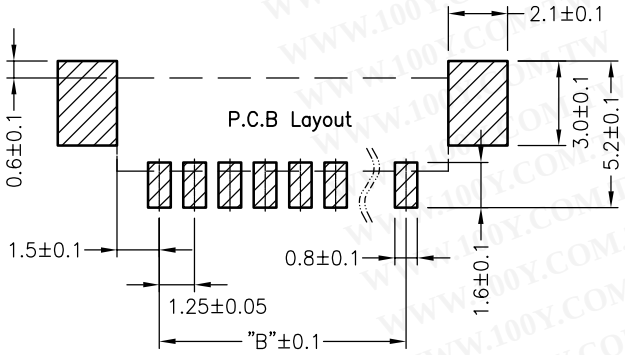
Poles	DIM.A	DIM.B	DIM.C	DIM.D
2P	4.25	1.25	7.55	3.05
3P	5.50	2.50	8.80	4.30
4P	6.75	3.75	10.05	5.55
5P	8.00	5.00	11.30	6.80
6P	9.25	6.25	12.55	8.05
7P	10.50	7.50	13.80	9.30
8P	11.75	8.75	15.05	10.55
9P	13.00	10.00	16.30	11.80
10P	14.25	11.25	17.55	13.05
11P	15.50	12.50	18.80	14.30
12P	16.75	13.75	20.05	15.55
13P	18.00	15.00	21.30	16.80
14P	19.25	16.25	22.55	18.05
15P	20.50	17.50	23.80	19.30
16P	21.75	18.75	25.05	20.55
17P	23.00	20.00	26.30	21.80
18P	24.25	21.25	27.55	23.05
20P	26.75	23.75	30.05	25.55

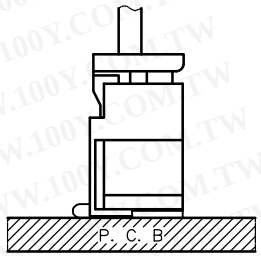












■ 技术参数 SPECIFICATIONS

- ◆ 适用线规: AWG.#28~#32
  Applicable Wire: AWG.#28~#32
- ◆ 额定电压: 125V DC/AC(rms)
  Rated voltage: 125V DC/AC(rms)
- ◆ 额定电流: 1A (AWG.#28)
  Rated Current: 1A (AWG.#28)
- ◆ 耐压值: 250V AC/minute
  Withstand voltage: 250V AC/min.
- ◆ 工作温度: −40℃ ~ +85℃
  Working Temp : −40℃ ~ +85℃
- ◆ 绝缘电阻: ≥100 MΩ
  Insulation resistance: ≥100 MΩ
- ◆ 接触电阻: ≤20 mΩ
  Contact resistance: ≤20 mΩ

■ 材料 MATERIAL

- ◆ 绝缘体: 尼龙9T, UL94−V0
  Insulator: PA9T, UL94−V0
- ◆ 接触针: 磷铜
  Contact PIN: Phosphor bronze
- ◆ 焊片: 磷铜
  Solder tab: Phosphor bronze

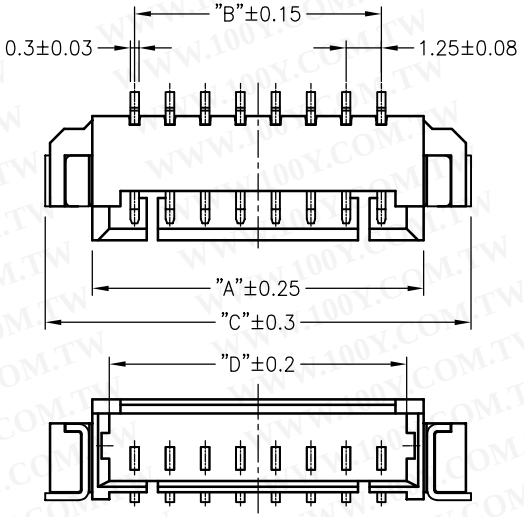
JINDA®
DongGuan JinDa Electronics Co., Ltd.

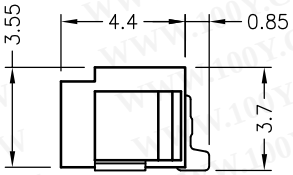
GENERAL TOLERANCE	
XX. ±0.40	
X. ±0.30	
.X ±0.25	X.° ± 2°
.XX ±0.15	.X° ± 1°

SCALE: 4:1	DRAWN: 柴艳妮	DATE: 2015.9.25	DOC. NO: JD-Y-E002	TITLE: 工程图	REV. A
UNIT: mm	CHECK: 于 腾	DATE: 2015.9.25			
SIZE: A4	APPROVE: 肖志军	DATE: 2015.9.25	PARTS NO: 1.25T-1-LT-NA		SHEET: 1/1

DWG NO: E:\DWG\Production\1.25T

Poles	DIM.A	DIM.B	DIM.C	DIM.D
2P	4.25	1.25	7.55	3.05
3P	5.50	2.50	8.80	4.30
4P	6.75	3.75	10.05	5.55
5P	8.00	5.00	11.30	6.80
6P	9.25	6.25	12.55	8.05
7P	10.50	7.50	13.80	9.30
8P	11.75	8.75	15.05	10.55
9P	13.00	10.00	16.30	11.80
10P	14.25	11.25	17.55	13.05
11P	15.50	12.50	18.80	14.30
12P	16.75	13.75	20.05	15.55
13P	18.00	15.00	21.30	16.80
14P	19.25	16.25	22.55	18.05
15P	20.50	17.50	23.80	19.30
16P	21.75	18.75	25.05	20.55
17P	23.00	20.00	26.30	21.80
18P	24.25	21.25	27.55	23.05
20P	26.75	23.75	30.05	25.55



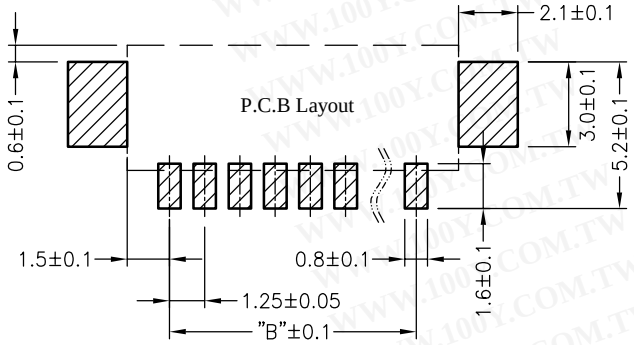


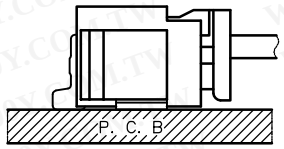
■ 技术参数 SPECIFICATIONS

- ◆ 适用线规: AWG.#28~#32
  Applicable Wire: AWG.#28~#32
- ◆ 额定电压: 125V DC/AC(rms)
  Rated voltage: 125V DC/AC(rms)
- ◆ 额定电流: 1A (AWG.#28)
  Rated Current: 1A (AWG.#28)
- ◆ 耐压值: 250V AC/minute
  Withstand voltage: 250V AC/min.
- ◆ 工作温度: −40℃ ~ +85℃
  Working Temp : −40℃ ~ +85℃
- ◆ 绝缘电阻: ≥100 MΩ
  Insulation resistance: ≥100 MΩ
- ◆ 接触电阻: ≤20 mΩ
  Contact resistance: ≤20 mΩ

■ 材料 MATERIAL

- ◆ 绝缘体: 尼龙9T, UL94−V0
  Insulator: PA9T, UL94−V0
- ◆ 接触针: 磷铜
  Contact PIN: Phosphor bronze
- ◆ 焊片: 磷铜
  Solder tab: Phosphor bronze





JINDA® DongGuan JinDa Electronics Co., Ltd.	GENERAL TOLERANCE		SCALE: 4:1	DRAWN: 柴艳妮	DATE: 2015.9.25	DOC. NO: JD-Y-E001	TITLE: 工程图	REV. A
	XX. ±0.40		UNIT: mm	CHECK: 于 腾	DATE: 2015.9.25			
	X. ±0.30					PARTS NO: 1.25T-1-WT-NA		SHEET: 1/1
	.X ±0.25	X.° ± 2°	SIZE: A4	APPROVE: 肖志军	DATE: 2015.9.25			
	.XX ±0.15	.X° ± 1°						

DWG NO: E:\DWG\Production\1.25T

DONGGUAN JINDA ELECTRONICS CO.,LTD

5#,ROAD NORTH,PUXINHU COUNTRY,TANGXIA TOWN,DONGGUAN,GUANGDONG
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : PA66 Halogen Free(in Chinese as PA66无卤)

SGS Job No. :	CP15-051465 - SZ
Date of Sample Received :	08 Sep 2015
Testing Period :	08 Sep 2015 - 15 Sep 2015
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 sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) 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 Standards Technical Services Co., Ltd. Guangzhou Branch

Merry

Merry Lv
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN15-156166.009	White plastic grains

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 : (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4)With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
(5)With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	*009*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	5	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	1,000	mg/kg	5	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

Test Item(s)	Limit	Unit	MDL	009
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 directive 2011/65/EU, Annex II.

Halogen

Test Method : With reference to EN 14582: 2007, analysis was performed by Ion Chromatograph (IC).

Test Item(s)	Unit	MDL	009
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Tetrabromobisphenol A (TBBP-A)

Test Method : With reference to US EPA Method 3540C:1996, analysis was performed by GC-MS&HPLC-MS.

Test Item(s)	Unit	MDL	009
Tetrabromobisphenol A (TBBP-A)	mg/kg	10	ND

Dimethyl Fumarate (DMF)

Test Method : SGS In-house method(GZTC CHEM-TOP-095), analysis was performed by GC-MS.

Test Item(s)	Limit	Unit	MDL	009
Dimethyl fumarate(DMF)	0.1	mg/kg	0.1	ND
Conclusion				**PASS**

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Notes :

(1) The maximum permissible limit is quoted from the document Commission Regulation (EU) No 412/2012 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Commission Decision 2012/48/EU)

Hexabromocyclododecane (HBCDD)

Test Method : With reference to IEC 62321:2008, analysis was performed by GC-MS.

Test Item(s)	Unit	MDL	*009*
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid)

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

Test Item(s)	CAS NO.	Unit	MDL	009
Perfluorooctanoic Acid (PFOA)	335-67-1	mg/kg	10	ND
Perfluorooctane Sulfonates (PFOS)^	-	mg/kg	10	ND

Notes :

(1) For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004:
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.
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.
(2)^: PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method : With reference to AfPS GS 2014:01 PAK, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	009
Naphthalene(NAP)	91-20-3	mg/kg	0.1	ND

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Test Item(s)	CAS NO.	Unit	MDL	009
Acenaphthylene(ANY)	208-96-8	mg/kg	0.1	ND
Acenaphthene(ANA)	83-32-9	mg/kg	0.1	ND
Fluorene(FLU)	86-73-7	mg/kg	0.1	ND
Phenanthrene(PHE)	85-01-8	mg/kg	0.1	ND
Anthracene(ANT)	120-12-7	mg/kg	0.1	ND
Fluoranthene(FLT)	206-44-0	mg/kg	0.1	ND
Pyrene(PYR)	129-00-0	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	56-55-3	mg/kg	0.1	ND
Chrysene(CHR)	218-01-9	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF)	205-99-2	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	205-82-3	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	207-08-9	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	50-32-8	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	192-97-2	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	193-39-5	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	53-70-3	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	191-24-2	mg/kg	0.1	ND
Sum of 7 PAHS Acenaphthylene. Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-	mg/kg	-	ND
Sum of 18 PAHs	-	mg/kg	-	ND

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AfPS (German commission for Product Safety) : GS PAHs requirements

Parameter	Category 1	Category 2		Category 3	
	Material indented to be put in the mouth or toys with intended skin contact (longer than 30 s).	Materials not falling under category 1 with foreseeable contact to skin for longer than 30 s (long-term skin) or frequent contact.		Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 s (short-term skin contact).	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(e)pyrene Mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(a)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(b)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(j)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(k)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo(a,h)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(g,h,i)perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno(l,2,3-cd)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Acenaphthylene, Acenaphthene, fluorene,phenanthrene , pyrene, anthracene, fluoranthene, mg/kg	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Naphthalene, mg/kg	< 1	< 2		< 10	
Sum of 18 PAHs	<1	< 5	< 10	< 20	< 50

Phthalate

Test Method : With reference to EN14372: 2004. Analysis was performed by GC-MS.

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center Chemical Laboratory
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Test Item(s)	CAS NO.	Unit	MDL	009
Dibutyl Phthalate (DBP)	84-74-2	%(w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%(w/w)	0.003	ND
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%(w/w)	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.010	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%(w/w)	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.010	ND
Dimethyl Phthalate (DMP)	131-11-3	%(w/w)	0.003	ND
Diethyl Phthalate (DEP)	84-66-2	%(w/w)	0.003	ND
Diisobutyl Phthalate (DIBP)	84-69-5	%(w/w)	0.003	ND
Dinonyl Phthalate (DNP)	84-76-4	%(w/w)	0.003	ND
Diisooctyl Phthalate (DIOP)	27554-26-3	%(w/w)	0.010	ND
Dipropyl Phthalate (DPrP)	131-16-8	%(w/w)	0.003	ND
Dicyclohexyl Phthalate (DCHP)	84-61-7	%(w/w)	0.003	ND
Di-n-pentyl Phthalate (DnPP)	131-18-0	%(w/w)	0.003	ND
Dibenzyl Phthalate (DBzP)	523-31-9	%(w/w)	0.003	ND
Diphenyl Phthalate (DPhP)	84-62-8	%(w/w)	0.003	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%(w/w)	0.003	ND

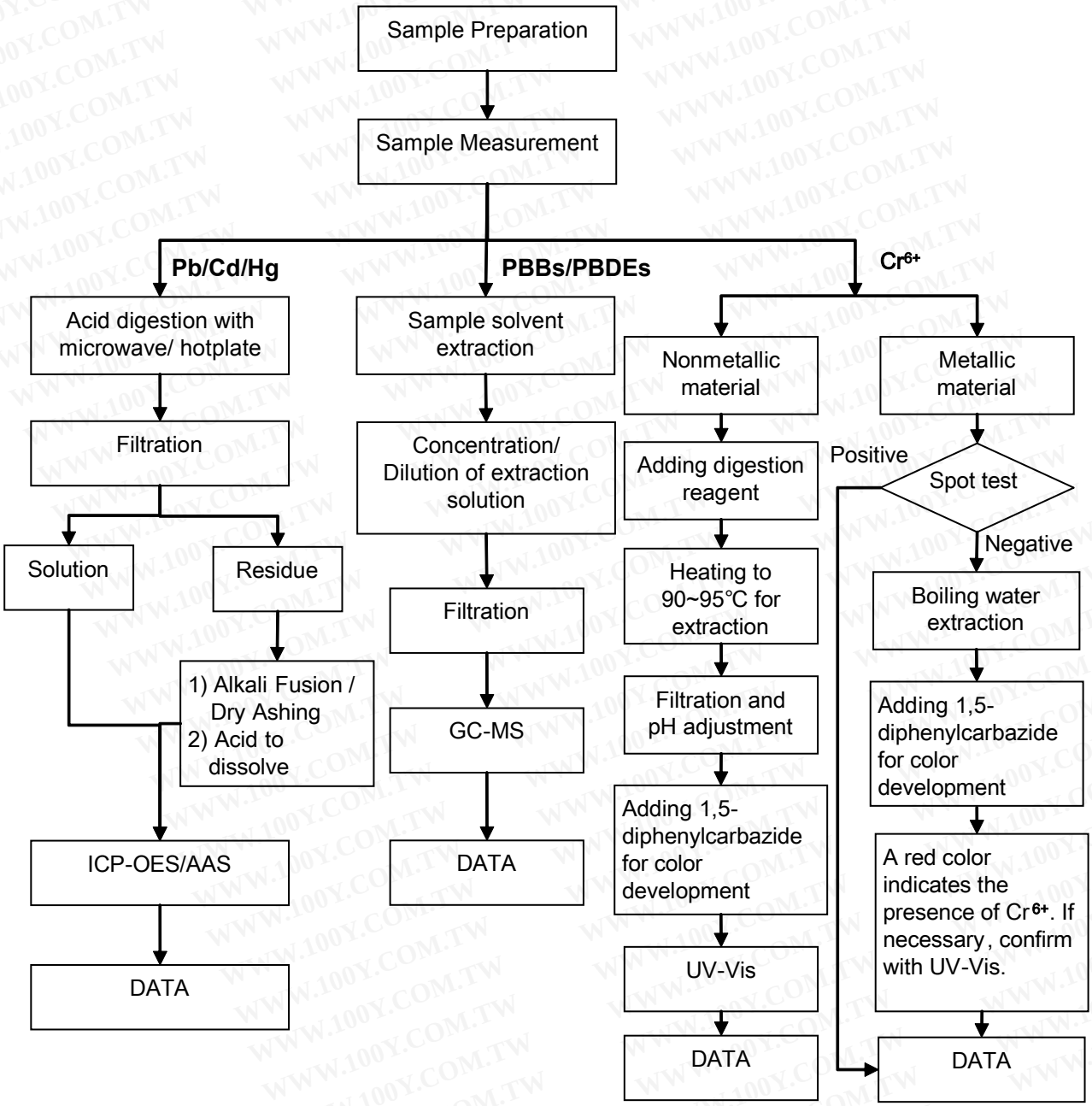
Notes :

(1)DBP,BBP,DEHP Reference information: Entry 51 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC):
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles.
ii) Toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information
(2)DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information

ATTACHMENTS

RoHS Testing Flow Chart

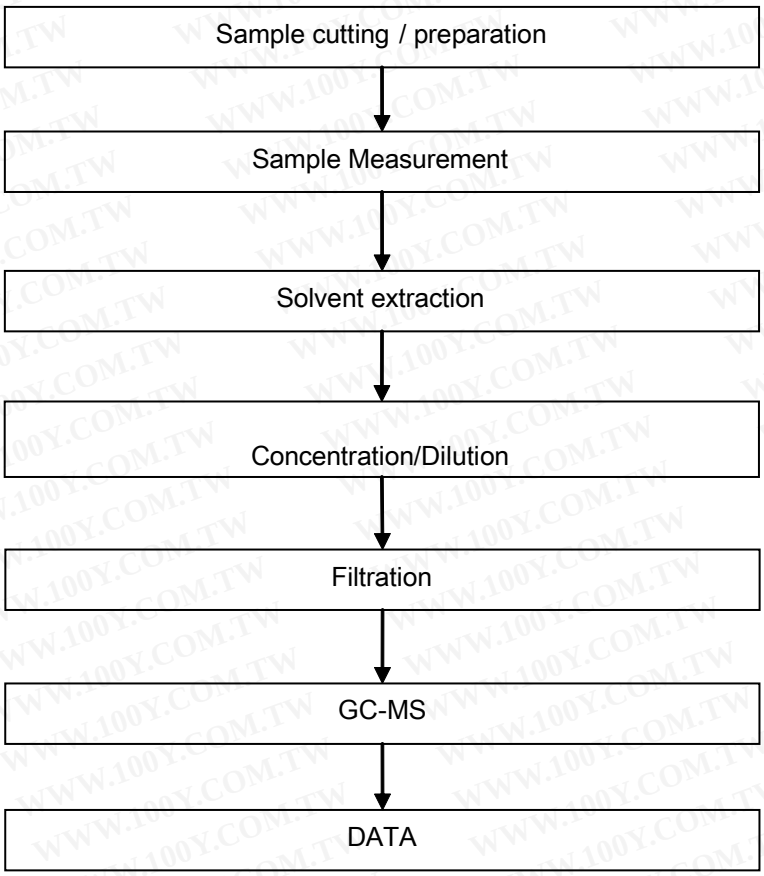
1) Name of the person who made testing: Bruce Xiao / Sunny Hu
2) Name of the person in charge of testing: Bella Wang / Cutey Yu
3) These samples were dissolved totally by pre -conditioning method according to below flow chart (Cr^{6+} and PBBs/PBDEs test method excluded).



ATTACHMENTS

HBCDD Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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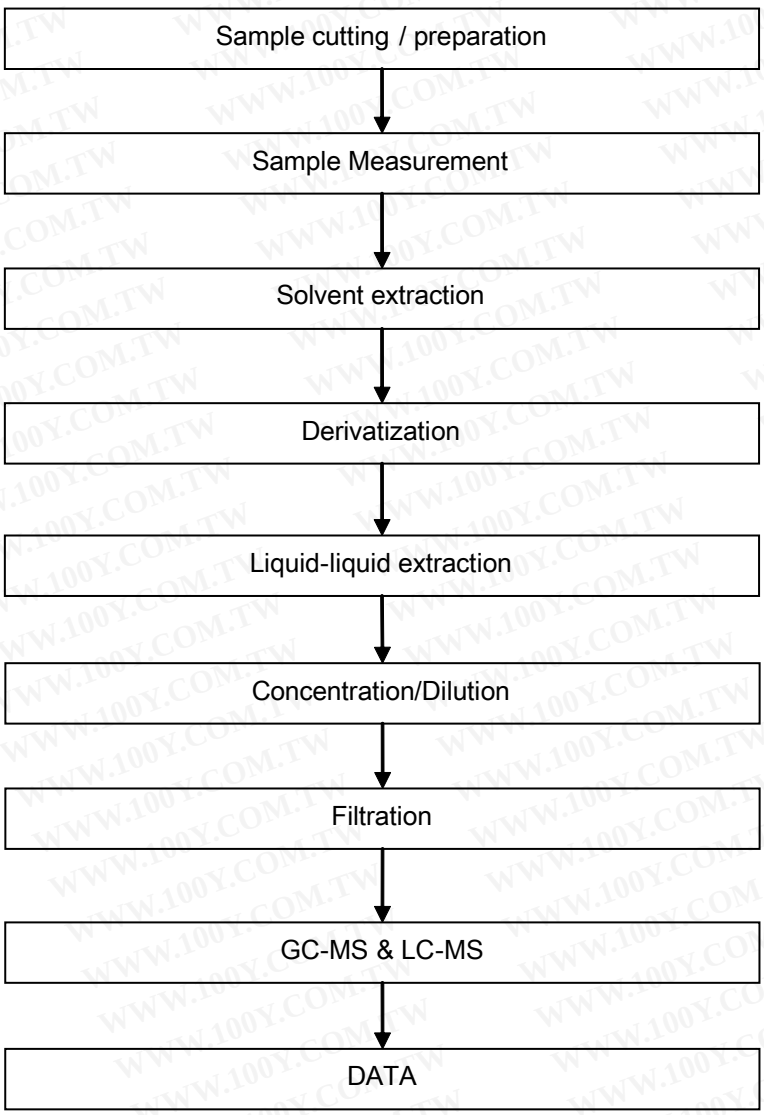
ATTACHMENTS

TBBP-A Testing Flow Chart

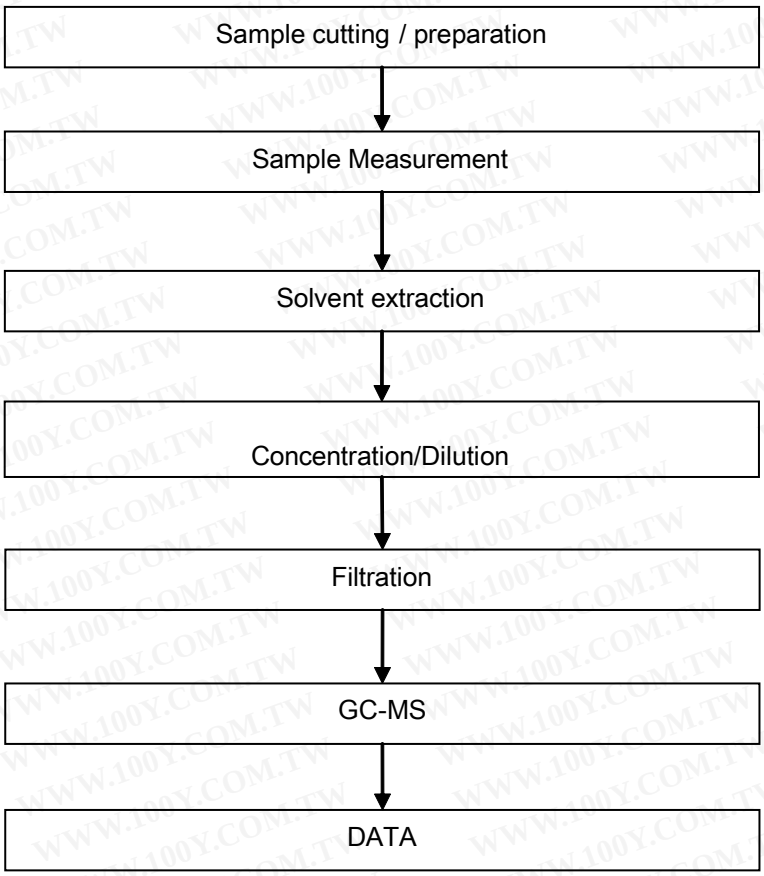
1) Name of the person who made testing: Erin Guo
2) Name of the person in charge of testing: Cutey Yu



ATTACHMENTS

PAHs Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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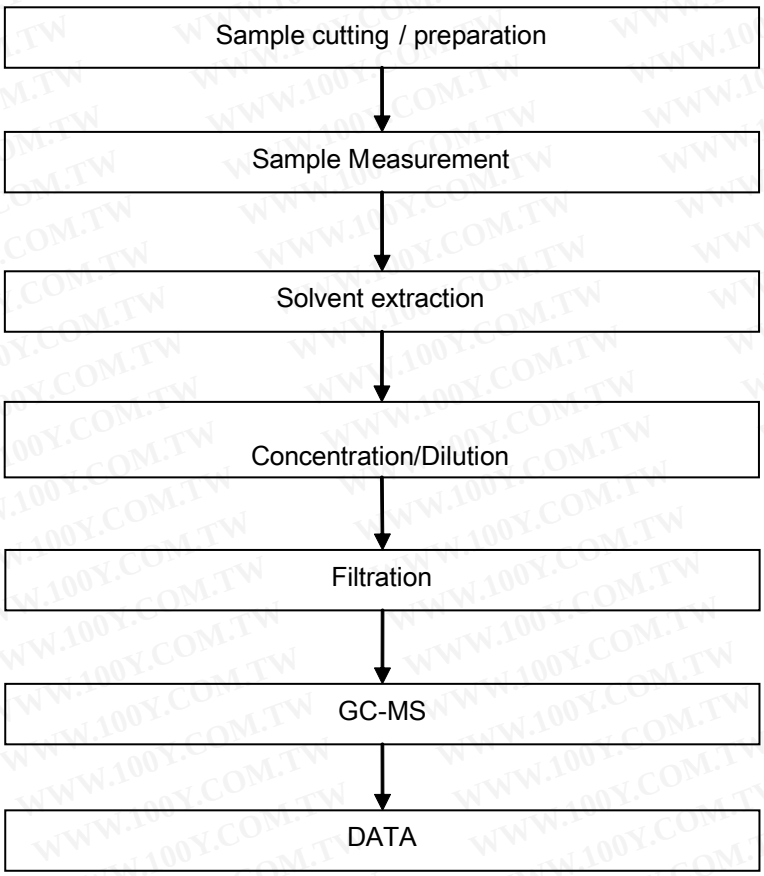
ATTACHMENTS

Dimethyl Fumarate Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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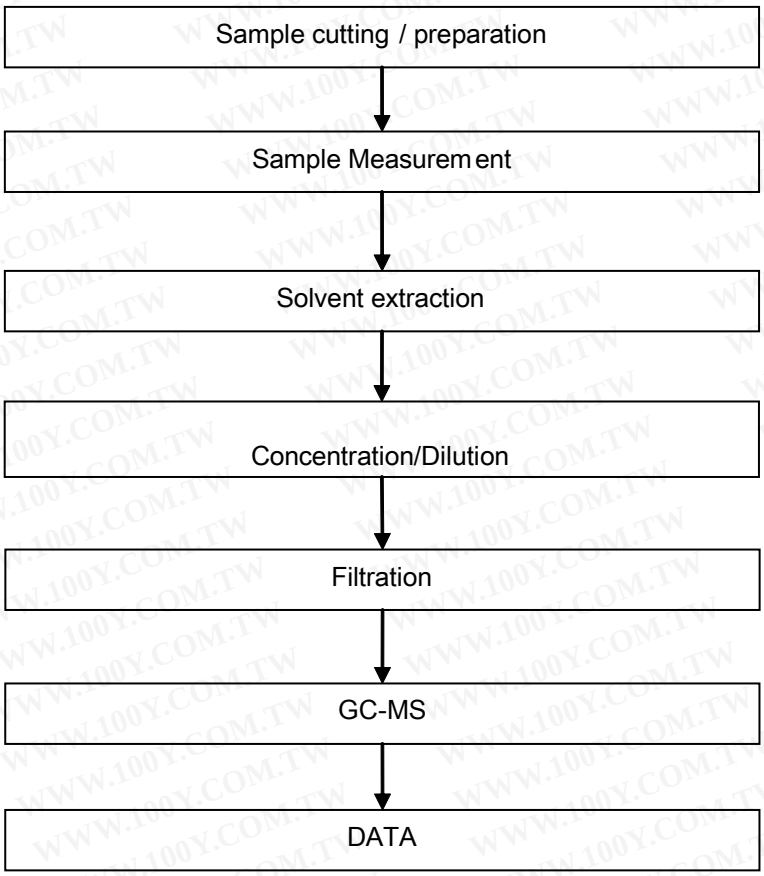
ATTACHMENTS

Phthalates Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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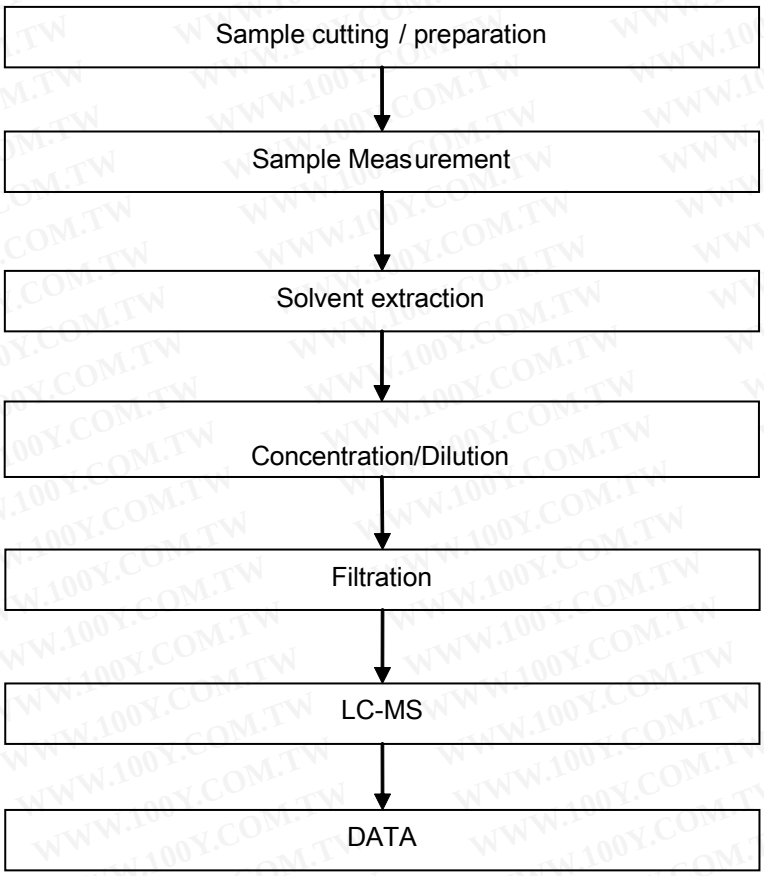
ATTACHMENTS

PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Zhihong Wang
2) Name of the person in charge of testing: Cutey Yu



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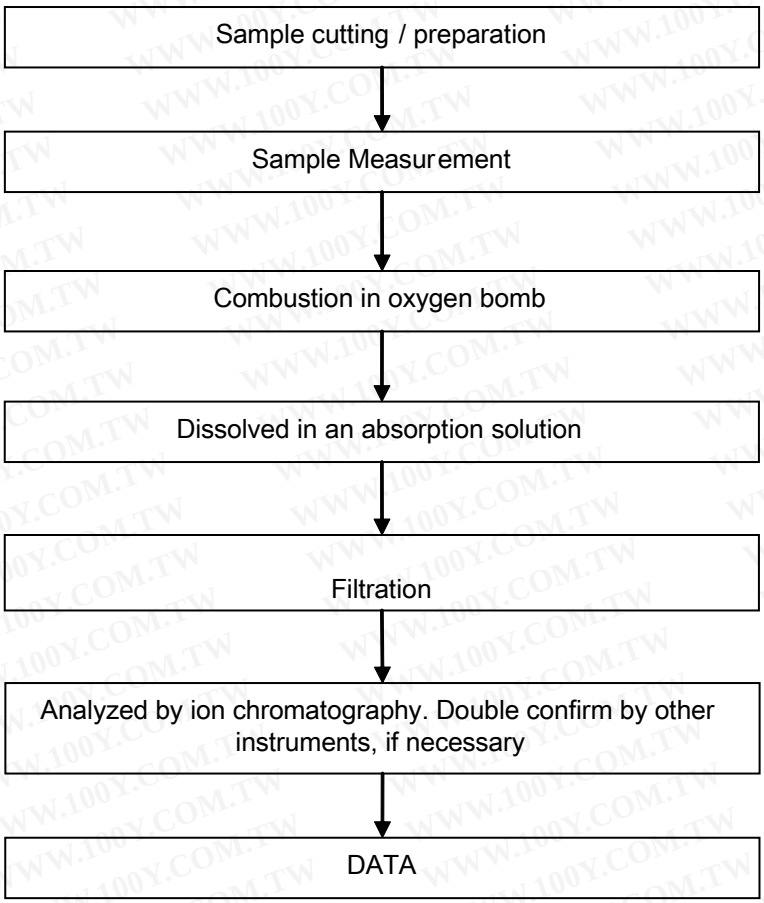
ATTACHMENTS

Halogen Testing Flow Chart

1) Name of the person who made testing: Hanming Xiao
2) Name of the person in charge of testing: Bella Wang



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Sample photo:

CAN15-156166.009

SGS authenticate the photo on original report only

*** End of Report ***

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DONGGUAN JINDA ELECTRONICS CO.,LTD

5#,ROAD NORTH,PUXINHU COUNTRY,TANGXIA TOWN,DONGGUAN,GUANGDONG
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : PA46

SGS Job No. :	CP15-051465 - SZ
Date of Sample Received :	08 Sep 2015
Testing Period :	08 Sep 2015 - 15 Sep 2015
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 sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) 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 Standards Technical Services Co., Ltd. Guangzhou Branch

Merry

Merry Lv
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN15-156166.001	Beige plastic grains

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 : (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4)With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
(5)With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	*001*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	15
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	5	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	1,000	mg/kg	5	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

Test Item(s)	Limit	Unit	MDL	*001*
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 directive 2011/65/EU, Annex II.

Tetrabromobisphenol A (TBBP-A)

Test Method : With reference to US EPA Method 3540C:1996, analysis was performed by GC-MS&HPLC-MS.

Test Item(s)	Unit	MDL	*001*
Tetrabromobisphenol A (TBBP-A)	mg/kg	10	ND

Dimethyl Fumarate (DMF)

Test Method : SGS In-house method(GZTC CHEM-TOP-095), analysis was performed by GC-MS.

Test Item(s)	Limit	Unit	MDL	*001*
Dimethyl fumarate(DMF)	0.1	mg/kg	0.1	ND
Conclusion				**PASS**

Notes :

(1) The maximum permissible limit is quoted from the document Commission Regulation (EU) No 412/2012 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Commission Decision 2012/48/EU)

Hexabromocyclododecane (HBCDD)

Test Method : With reference to IEC 62321:2008, analysis was performed by GC-MS.

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Test Item(s)	Unit	MDL	*001*
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid)

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

Test Item(s)	CAS NO.	Unit	MDL	001
Perfluorooctanoic Acid (PFOA)	335-67-1	mg/kg	10	ND
Perfluorooctane Sulfonates (PFOS)^	-	mg/kg	10	ND

Notes :

(1) For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004: 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.
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.
(2)^: PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method : With reference to AfPS GS 2014:01 PAK, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	001
Naphthalene(NAP)	91-20-3	mg/kg	0.1	ND
Acenaphthylene(ANY)	208-96-8	mg/kg	0.1	ND
Acenaphthene(ANA)	83-32-9	mg/kg	0.1	ND
Fluorene(FLU)	86-73-7	mg/kg	0.1	ND
Phenanthrene(PHE)	85-01-8	mg/kg	0.1	ND
Anthracene(ANT)	120-12-7	mg/kg	0.1	ND
Fluoranthene(FLT)	206-44-0	mg/kg	0.1	ND
Pyrene(PYR)	129-00-0	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	56-55-3	mg/kg	0.1	ND
Chrysene(CHR)	218-01-9	mg/kg	0.1	ND

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Test Item(s)	CAS NO.	Unit	MDL	001
Benzo(b)fluoranthene(BbF)	205-99-2	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	205-82-3	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	207-08-9	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	50-32-8	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	192-97-2	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	193-39-5	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	53-70-3	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	191-24-2	mg/kg	0.1	ND
Sum of 7 PAHS Acenaphthylene. Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-	mg/kg	-	ND
Sum of 18 PAHs	-	mg/kg	-	ND

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AfPS (German commission for Product Safety) : GS PAHs requirements

Parameter	Category 1	Category 2		Category 3	
	Material indented to be put in the mouth or toys with intended skin contact (longer than 30 s).	Materials not falling under category 1 with foreseeable contact to skin for longer than 30 s (long-term skin) or frequent contact.		Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 s (short-term skin contact).	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(e)pyrene Mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(a)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(b)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(j)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(k)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo(a,h)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(g,h,i)perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno(l,2,3-cd)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Acenaphthylene, Acenaphthene, fluorene,phenanthrene , pyrene, anthracene, fluoranthene, mg/kg	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Naphthalene, mg/kg	< 1	< 2		< 10	
Sum of 18 PAHs	<1	< 5	< 10	< 20	< 50

Phthalate

Test Method : With reference to EN14372: 2004. Analysis was performed by GC-MS.

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Test Item(s)	CAS NO.	Unit	MDL	001
Dibutyl Phthalate (DBP)	84-74-2	%(w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%(w/w)	0.003	ND
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%(w/w)	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.010	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%(w/w)	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.010	ND
Dimethyl Phthalate (DMP)	131-11-3	%(w/w)	0.003	ND
Diethyl Phthalate (DEP)	84-66-2	%(w/w)	0.003	ND
Diisobutyl Phthalate (DIBP)	84-69-5	%(w/w)	0.003	ND
Dinonyl Phthalate (DNP)	84-76-4	%(w/w)	0.003	ND
Diisooctyl Phthalate (DIOP)	27554-26-3	%(w/w)	0.010	ND
Dipropyl Phthalate (DPrP)	131-16-8	%(w/w)	0.003	ND
Dicyclohexyl Phthalate (DCHP)	84-61-7	%(w/w)	0.003	ND
Di-n-pentyl Phthalate (DnPP)	131-18-0	%(w/w)	0.003	ND
Dibenzyl Phthalate (DBzP)	523-31-9	%(w/w)	0.003	ND
Diphenyl Phthalate (DPhP)	84-62-8	%(w/w)	0.003	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%(w/w)	0.003	ND

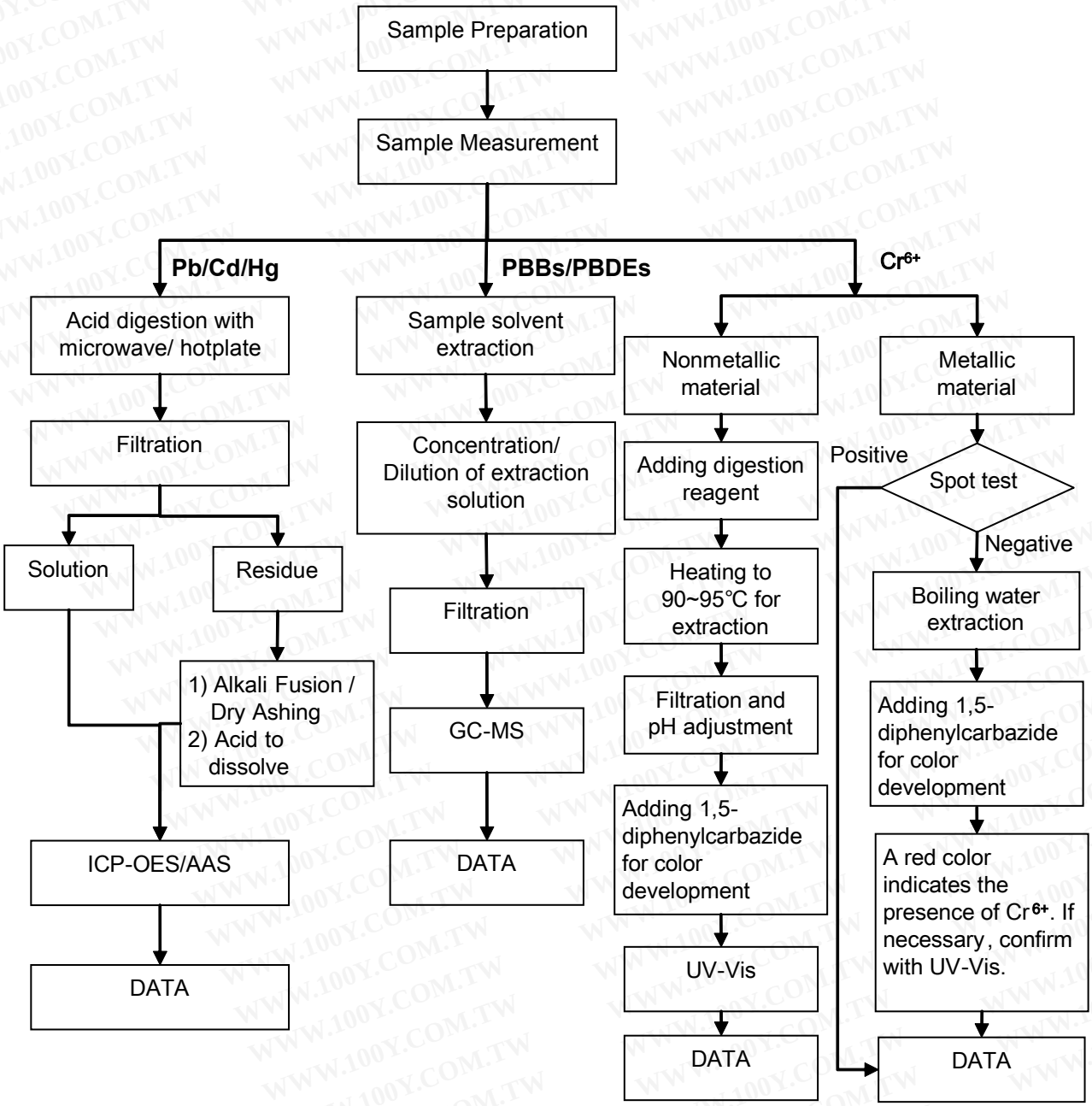
Notes :

(1)DBP,BBP,DEHP Reference information: Entry 51 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC):
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles.
ii) Toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information
(2)DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information

ATTACHMENTS

RoHS Testing Flow Chart

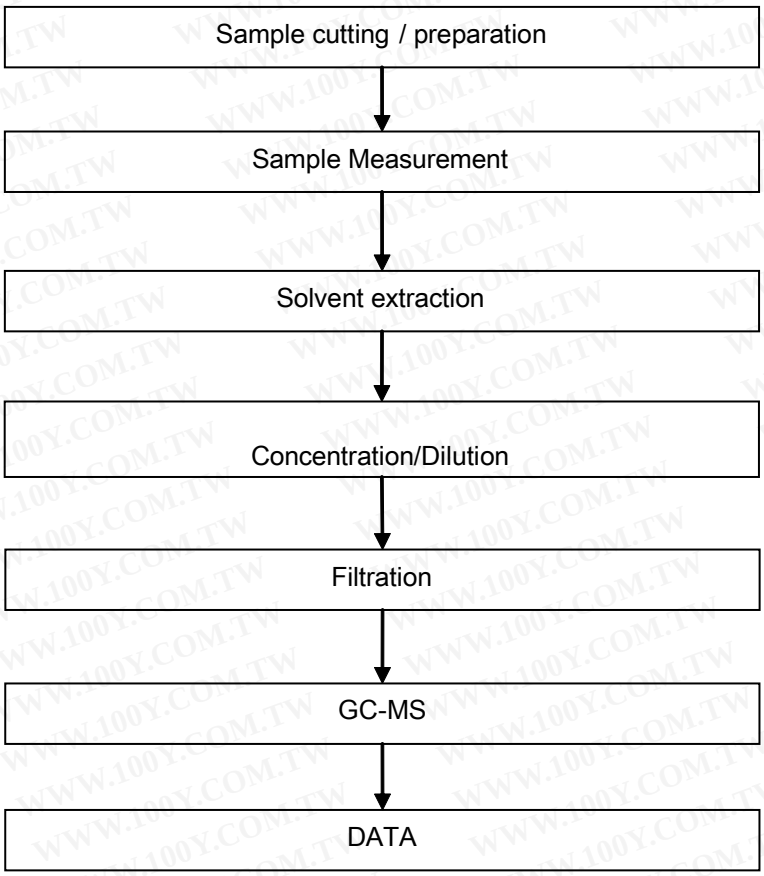
1) Name of the person who made testing: Bruce Xiao / Sunny Hu
2) Name of the person in charge of testing: Bella Wang / Cutey Yu
3) These samples were dissolved totally by pre -conditioning method according to below flow chart (Cr^{6+} and PBBs/PBDEs test method excluded).



ATTACHMENTS

HBCDD Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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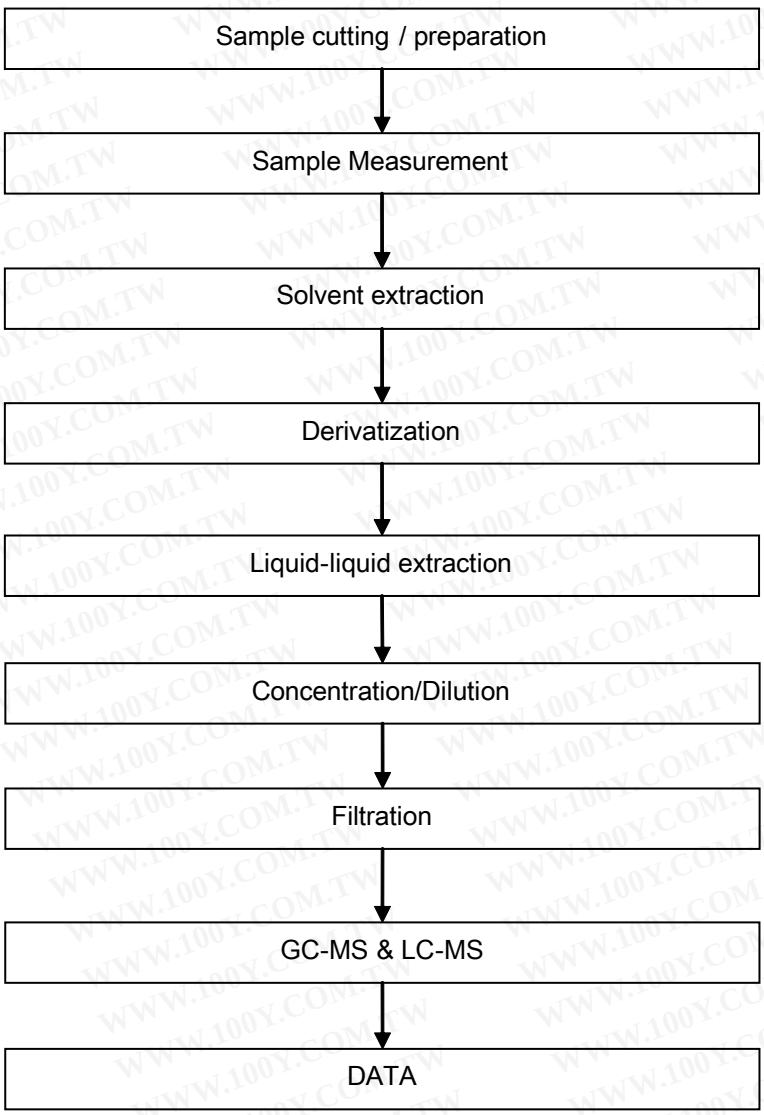
ATTACHMENTS

TBBP-A Testing Flow Chart

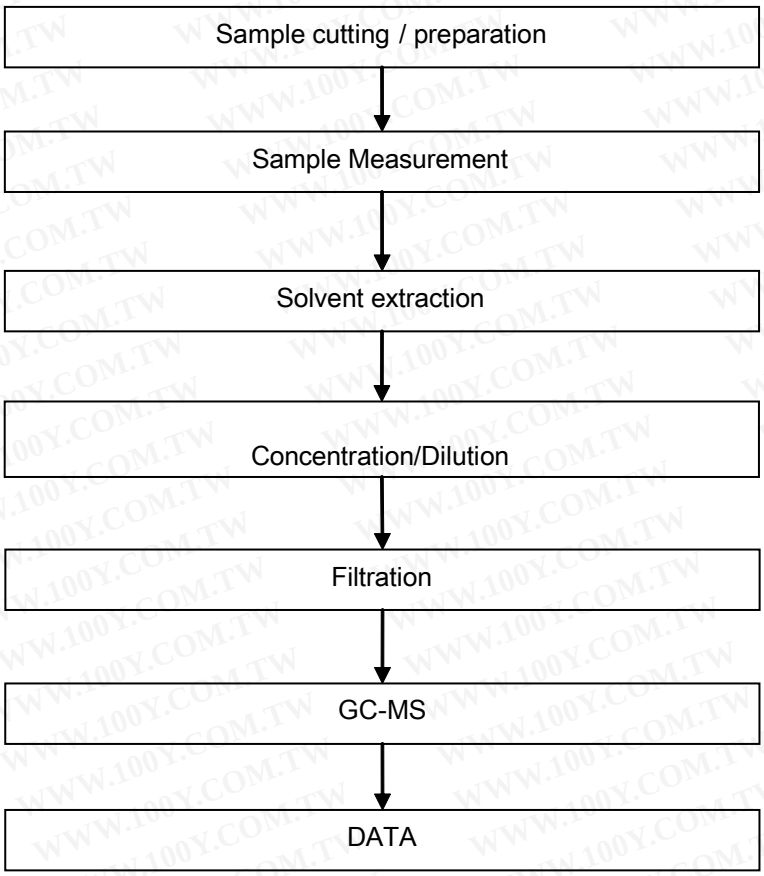
1) Name of the person who made testing: Erin Guo
2) Name of the person in charge of testing: Cutey Yu



ATTACHMENTS

PAHs Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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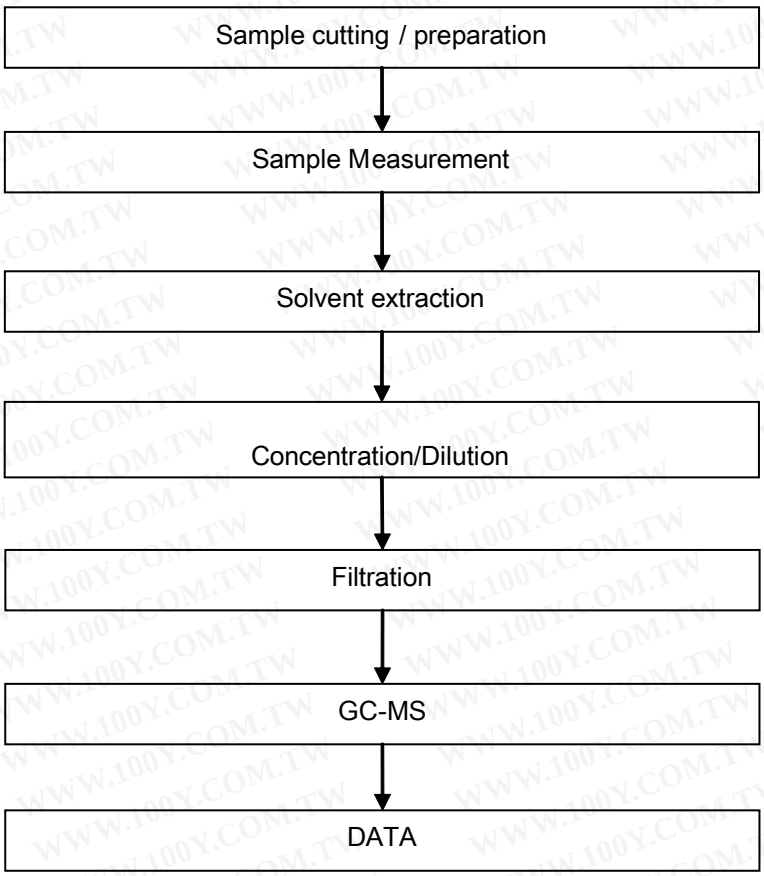
ATTACHMENTS

Dimethyl Fumarate Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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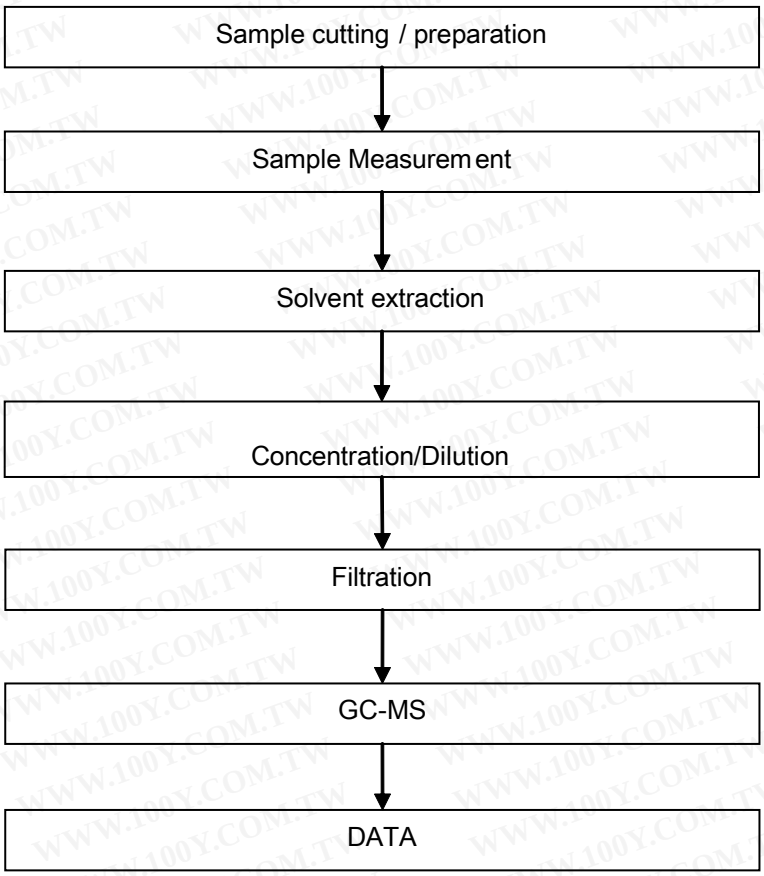
ATTACHMENTS

Phthalates Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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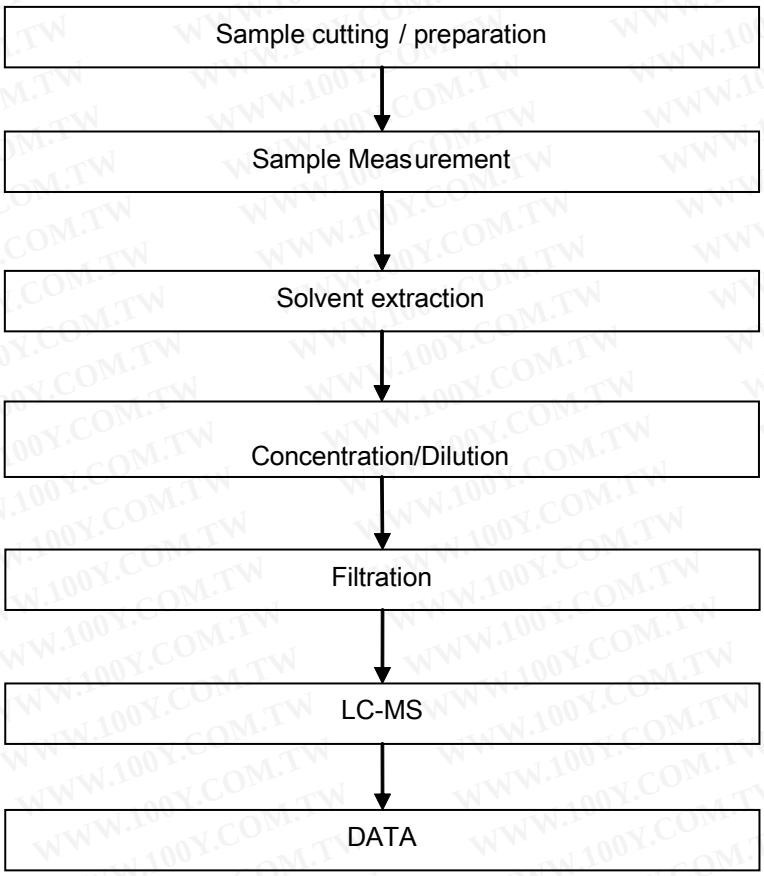
ATTACHMENTS

PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Zhihong Wang
2) Name of the person in charge of testing: Cutey Yu



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Sample photo:

CAN15-156166.001

SGS authenticate the photo on original report only

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DONGGUAN JINDA ELECTRONICS CO.,LTD

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CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : PA9T

SGS Job No. :	CP15-051465 - SZ
Date of Sample Received :	08 Sep 2015
Testing Period :	08 Sep 2015 - 15 Sep 2015
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 sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) 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 Standards Technical Services Co., Ltd. Guangzhou Branch

Merry

Merry Lv
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN15-156166.003	Beige plastic grains

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 : (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4)With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
(5)With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	*003*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	6
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	5	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	1,000	mg/kg	5	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

Test Item(s)	Limit	Unit	MDL	*003*
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 directive 2011/65/EU, Annex II.

Tetrabromobisphenol A (TBBP-A)

Test Method : With reference to US EPA Method 3540C:1996, analysis was performed by GC-MS&HPLC-MS.

Test Item(s)	Unit	MDL	*003*
Tetrabromobisphenol A (TBBP-A)	mg/kg	10	ND

Dimethyl Fumarate (DMF)

Test Method : SGS In-house method(GZTC CHEM-TOP-095), analysis was performed by GC-MS.

Test Item(s)	Limit	Unit	MDL	*003*
Dimethyl fumarate(DMF)	0.1	mg/kg	0.1	ND
Conclusion				**PASS**

Notes :

(1) The maximum permissible limit is quoted from the document Commission Regulation (EU) No 412/2012 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Commission Decision 2012/48/EU)

Hexabromocyclododecane (HBCDD)

Test Method : With reference to IEC 62321:2008, analysis was performed by GC-MS.

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Test Item(s)	Unit	MDL	*003*
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid)

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

Test Item(s)	CAS NO.	Unit	MDL	003
Perfluorooctanoic Acid (PFOA)	335-67-1	mg/kg	10	ND
Perfluorooctane Sulfonates (PFOS)^	-	mg/kg	10	ND

Notes :

(1) For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004: 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.
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.
(2)^: PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method : With reference to AfPS GS 2014:01 PAK, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
Naphthalene(NAP)	91-20-3	mg/kg	0.1	ND
Acenaphthylene(ANY)	208-96-8	mg/kg	0.1	ND
Acenaphthene(ANA)	83-32-9	mg/kg	0.1	ND
Fluorene(FLU)	86-73-7	mg/kg	0.1	ND
Phenanthrene(PHE)	85-01-8	mg/kg	0.1	ND
Anthracene(ANT)	120-12-7	mg/kg	0.1	ND
Fluoranthene(FLT)	206-44-0	mg/kg	0.1	ND
Pyrene(PYR)	129-00-0	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	56-55-3	mg/kg	0.1	ND
Chrysene(CHR)	218-01-9	mg/kg	0.1	ND

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Test Item(s)	CAS NO.	Unit	MDL	003
Benzo(b)fluoranthene(BbF)	205-99-2	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	205-82-3	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	207-08-9	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	50-32-8	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	192-97-2	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	193-39-5	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	53-70-3	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	191-24-2	mg/kg	0.1	ND
Sum of 7 PAHS Acenaphthylene. Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-	mg/kg	-	ND
Sum of 18 PAHs	-	mg/kg	-	ND

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AfPS (German commission for Product Safety) : GS PAHs requirements

Parameter	Category 1	Category 2		Category 3	
	Material indented to be put in the mouth or toys with intended skin contact (longer than 30 s).	Materials not falling under category 1 with foreseeable contact to skin for longer than 30 s (long-term skin) or frequent contact.		Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 s (short-term skin contact).	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(e)pyrene Mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(a)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(b)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(j)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(k)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo(a,h)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(g,h,i)perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno(l,2,3-cd)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Acenaphthylene, Acenaphthene, fluorene,phenanthrene , pyrene, anthracene, fluoranthene, mg/kg	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Naphthalene, mg/kg	< 1	< 2		< 10	
Sum of 18 PAHs	<1	< 5	< 10	< 20	< 50

Phthalate

Test Method : With reference to EN14372: 2004. Analysis was performed by GC-MS.

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Test Item(s)	CAS NO.	Unit	MDL	003
Dibutyl Phthalate (DBP)	84-74-2	%(w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%(w/w)	0.003	ND
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%(w/w)	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.010	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%(w/w)	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.010	ND
Dimethyl Phthalate (DMP)	131-11-3	%(w/w)	0.003	ND
Diethyl Phthalate (DEP)	84-66-2	%(w/w)	0.003	ND
Diisobutyl Phthalate (DIBP)	84-69-5	%(w/w)	0.003	ND
Dinonyl Phthalate (DNP)	84-76-4	%(w/w)	0.003	ND
Diisooctyl Phthalate (DIOP)	27554-26-3	%(w/w)	0.010	ND
Dipropyl Phthalate (DPrP)	131-16-8	%(w/w)	0.003	ND
Dicyclohexyl Phthalate (DCHP)	84-61-7	%(w/w)	0.003	ND
Di-n-pentyl Phthalate (DnPP)	131-18-0	%(w/w)	0.003	ND
Dibenzyl Phthalate (DBzP)	523-31-9	%(w/w)	0.003	ND
Diphenyl Phthalate (DPhP)	84-62-8	%(w/w)	0.003	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%(w/w)	0.003	ND

Notes :

(1)DBP,BBP,DEHP Reference information: Entry 51 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC):
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles.
ii) Toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information
(2)DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).
i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
Please refer to Regulation (EC) No 552/2009 to get more detail information

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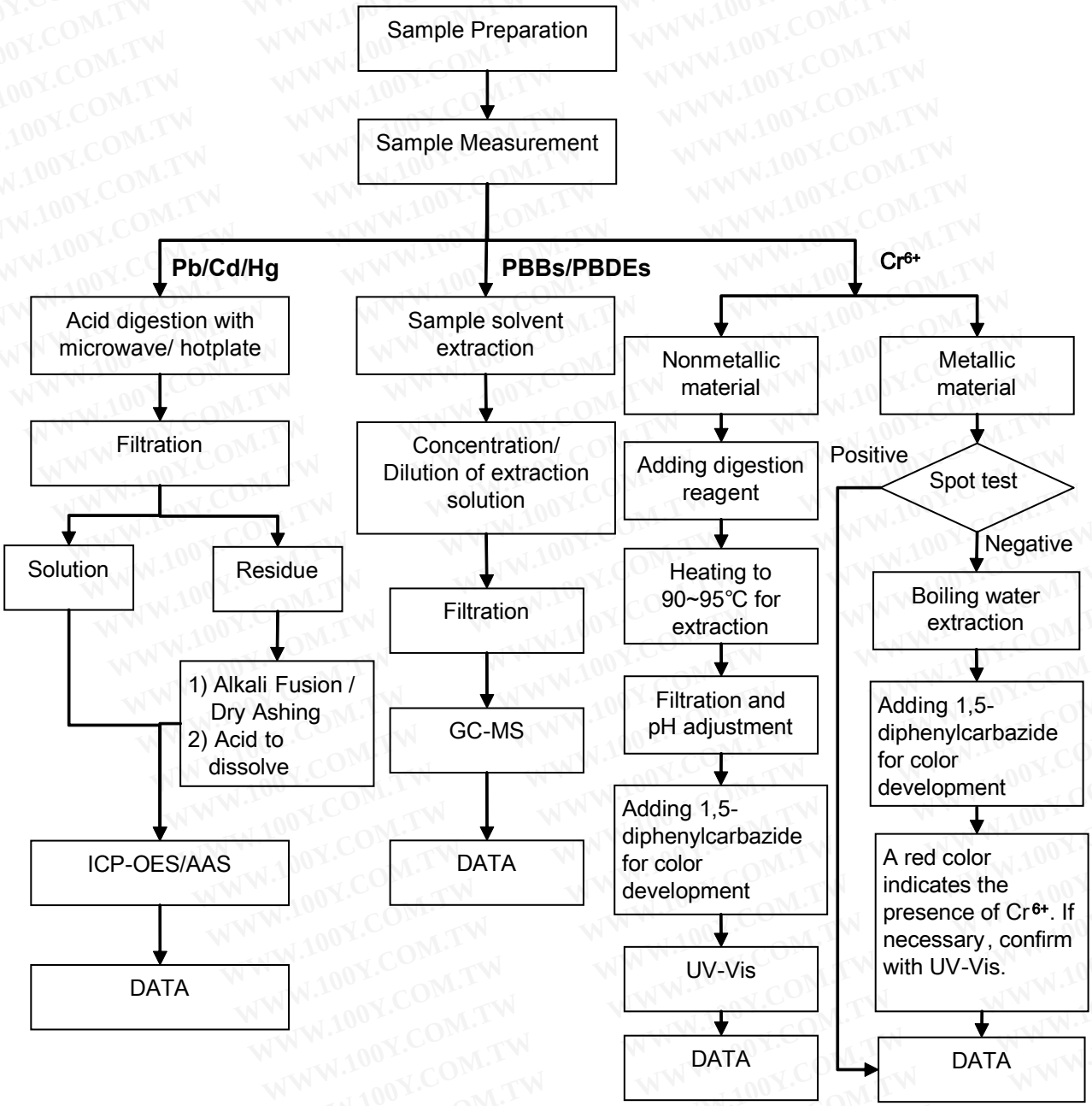
ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Bruce Xiao / Sunny Hu
2) Name of the person in charge of testing: Bella Wang / Cutey Yu
3) These samples were dissolved totally by pre -conditioning method according to below flow chart (Cr^{6+} and PBBs/PBDEs test method excluded).



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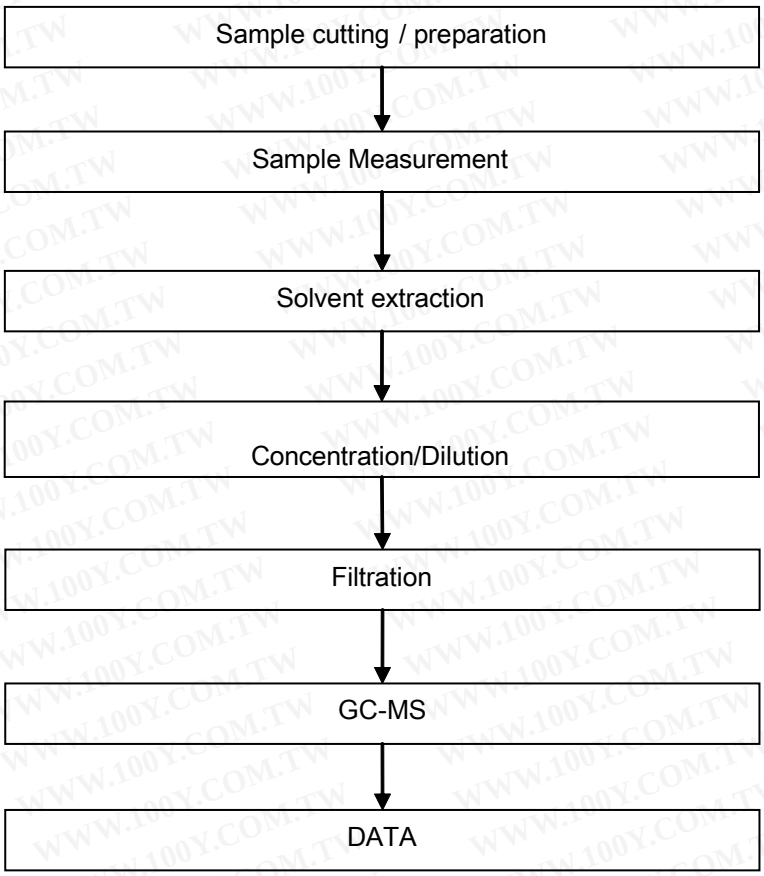
ATTACHMENTS

HBCDD Testing Flow Chart

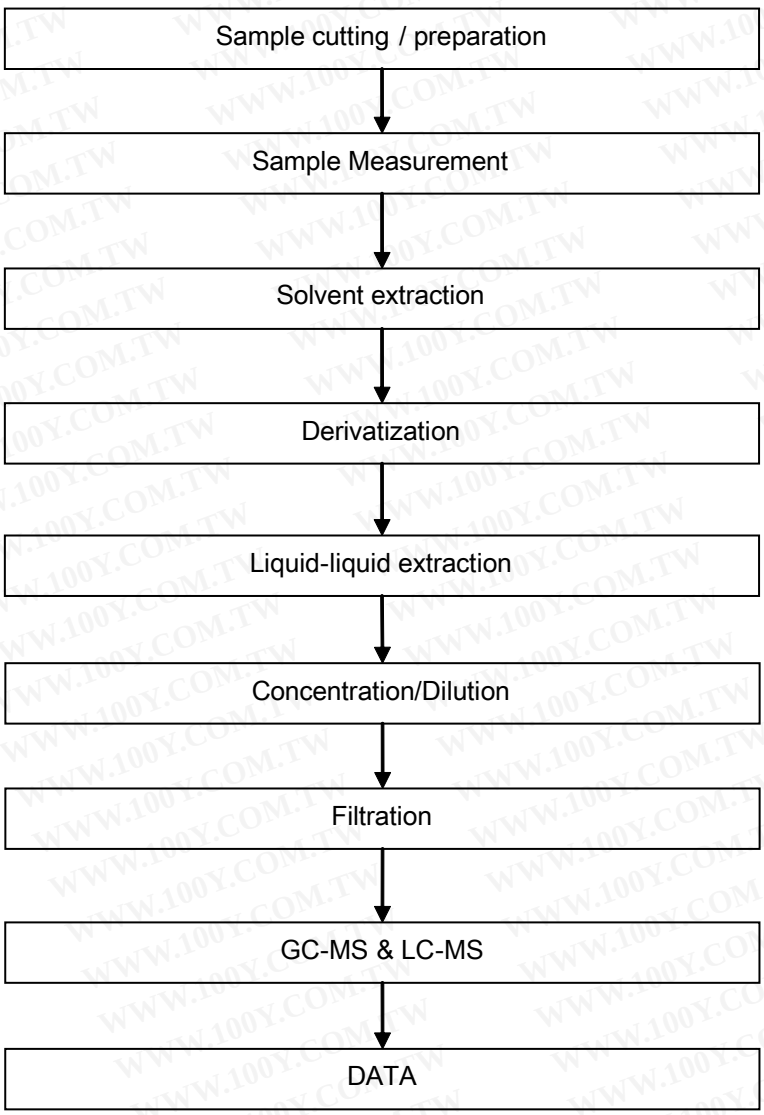
1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



ATTACHMENTS

TBBP-A Testing Flow Chart

1) Name of the person who made testing: Erin Guo
2) Name of the person in charge of testing: Cutey Yu



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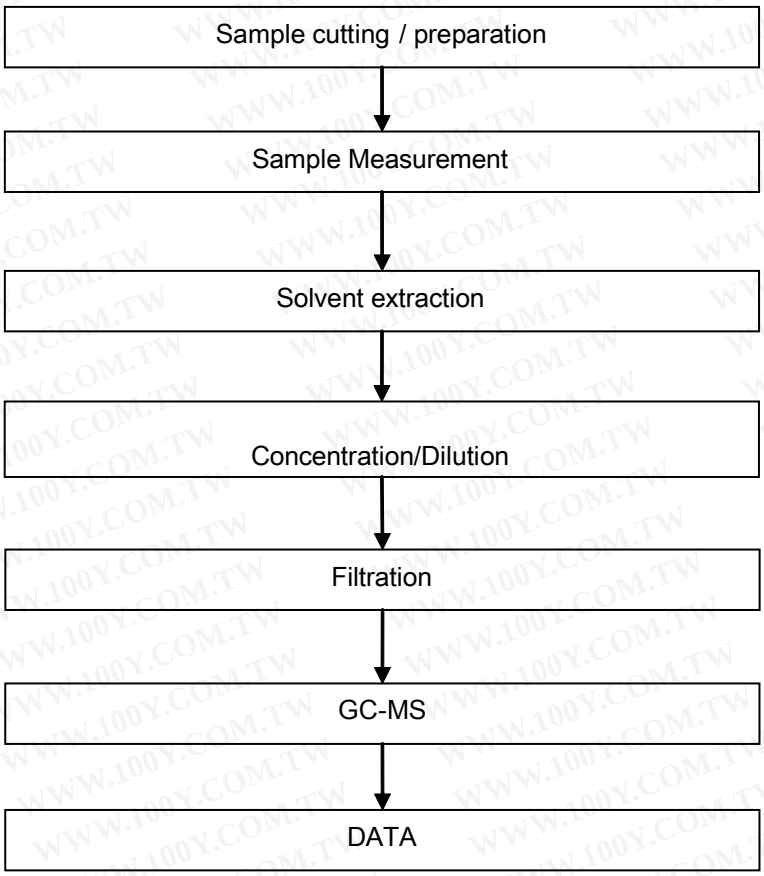
PAHs Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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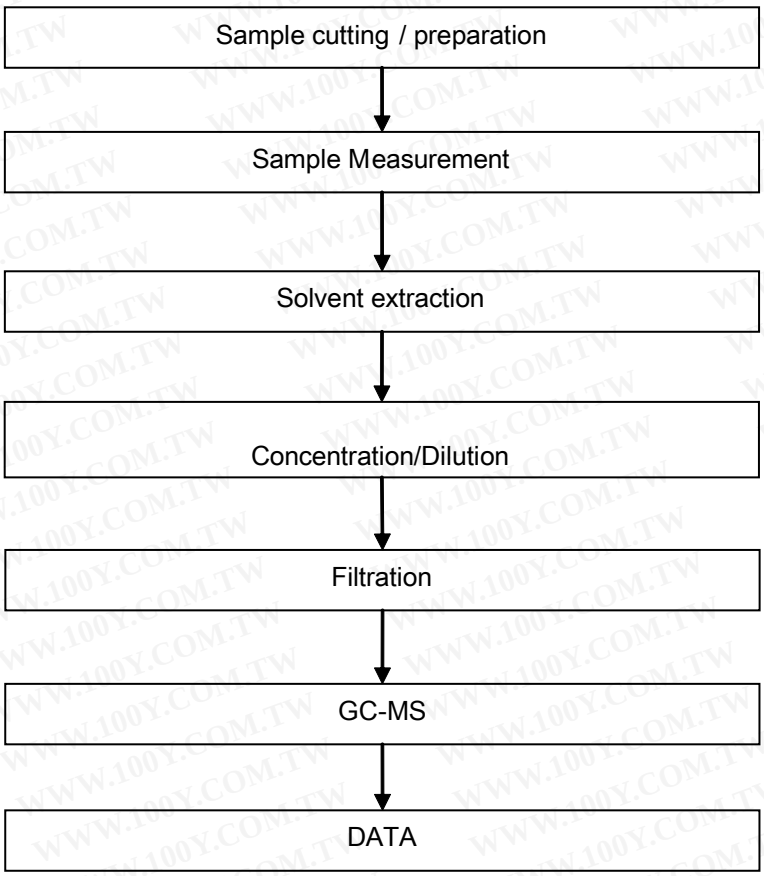
ATTACHMENTS

Dimethyl Fumarate Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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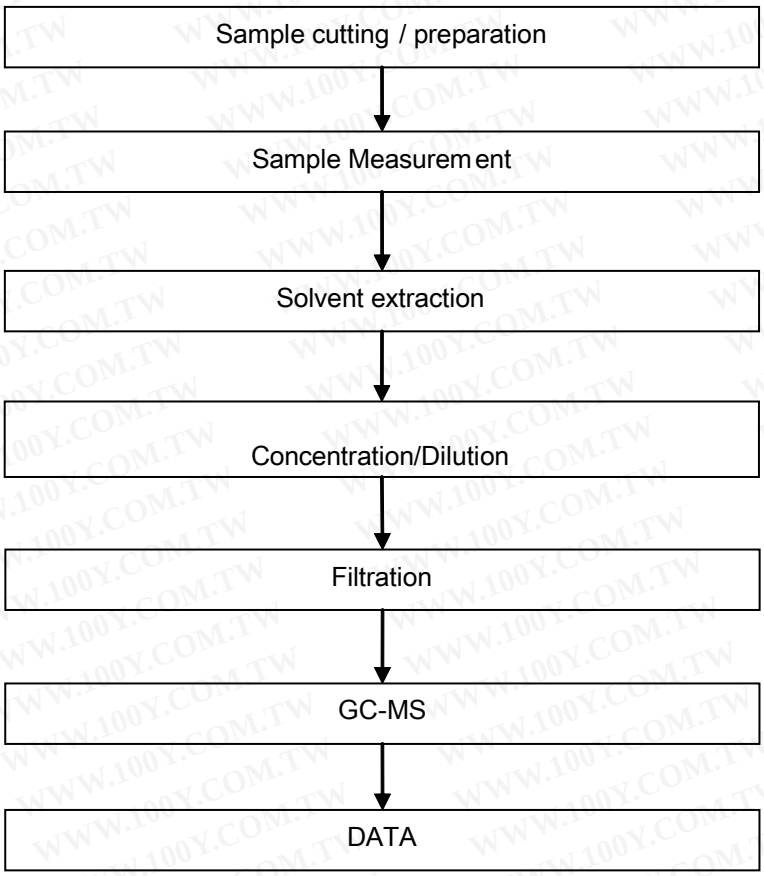
ATTACHMENTS

Phthalates Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



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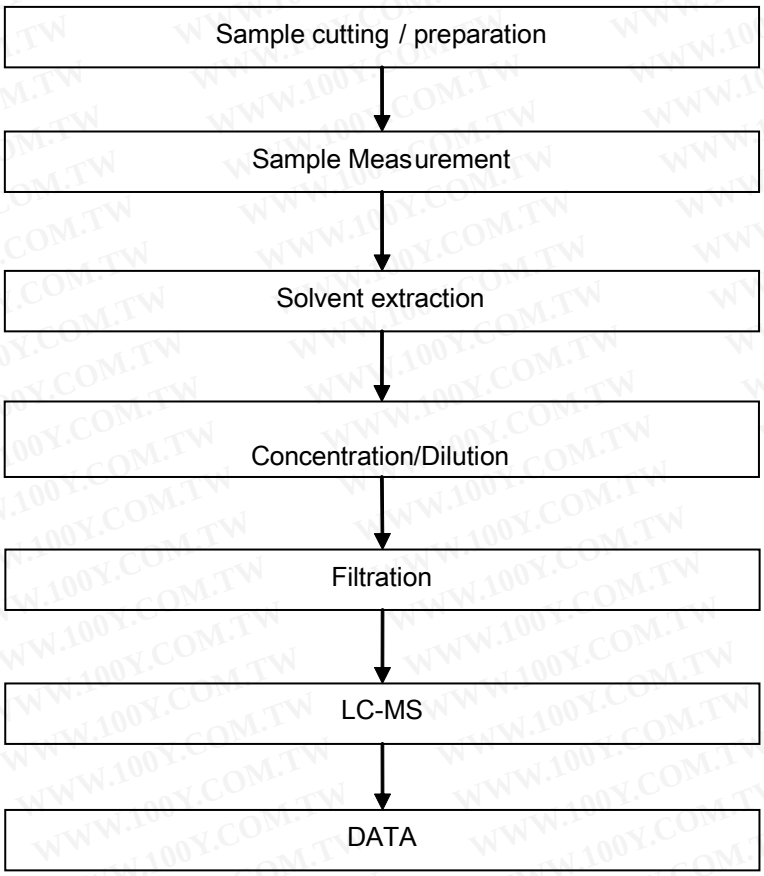
ATTACHMENTS

PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Zhihong Wang
2) Name of the person in charge of testing: Cutey Yu



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Sample photo:

CAN15-156166.003

SGS authenticate the photo on original report only

*** End of Report ***

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DONGGUAN JINDA ELECTRONICS CO.,LTD

5#,ROAD NORTH,PUXINHU COUNTRY,TANGXIA TOWN,DONGGUAN,GUANGDONG
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Phosphor copper electroplate tin terminal（in Chinese as 磷铜镀锡端子)

SGS Job No. :	CP15-051465 - SZ
Date of Sample Received :	08 Sep 2015
Testing Period :	08 Sep 2015 - 15 Sep 2015
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 sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Merry

Merry Lv
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN15-156166.012	Silvery plated metal

Remarks :

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4)With reference to IEC 62321:2008, determination of Hexavalent Chromium by spot test / Colorimetric Method using UV-Vis.

Test Item(s)	Limit	Unit	MDL	*012*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	15
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	-	-	◇	Negative

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
(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.

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PFOA & PFOS (Perfluorooctanoic acid & Perfluorooctane sulfonates)

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

Test Item(s)	CAS NO.	Unit	MDL	*012*
Perfluorooctanoic Acid (PFOA)	335-67-1	µg/m²	1.0	ND
Perfluorooctane Sulfonates (PFOS)^	-	µg/m²	1.0	ND

Notes :

(1) For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004:
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.
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.
(2)^: PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

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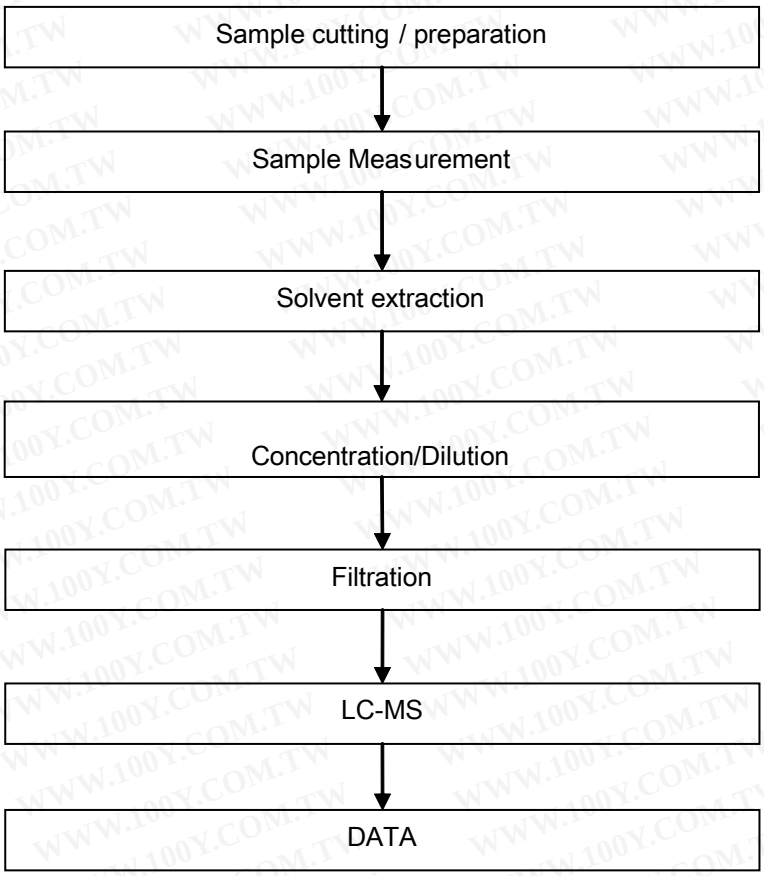
ATTACHMENTS

PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Zhihong Wang
2) Name of the person in charge of testing: Cutey Yu



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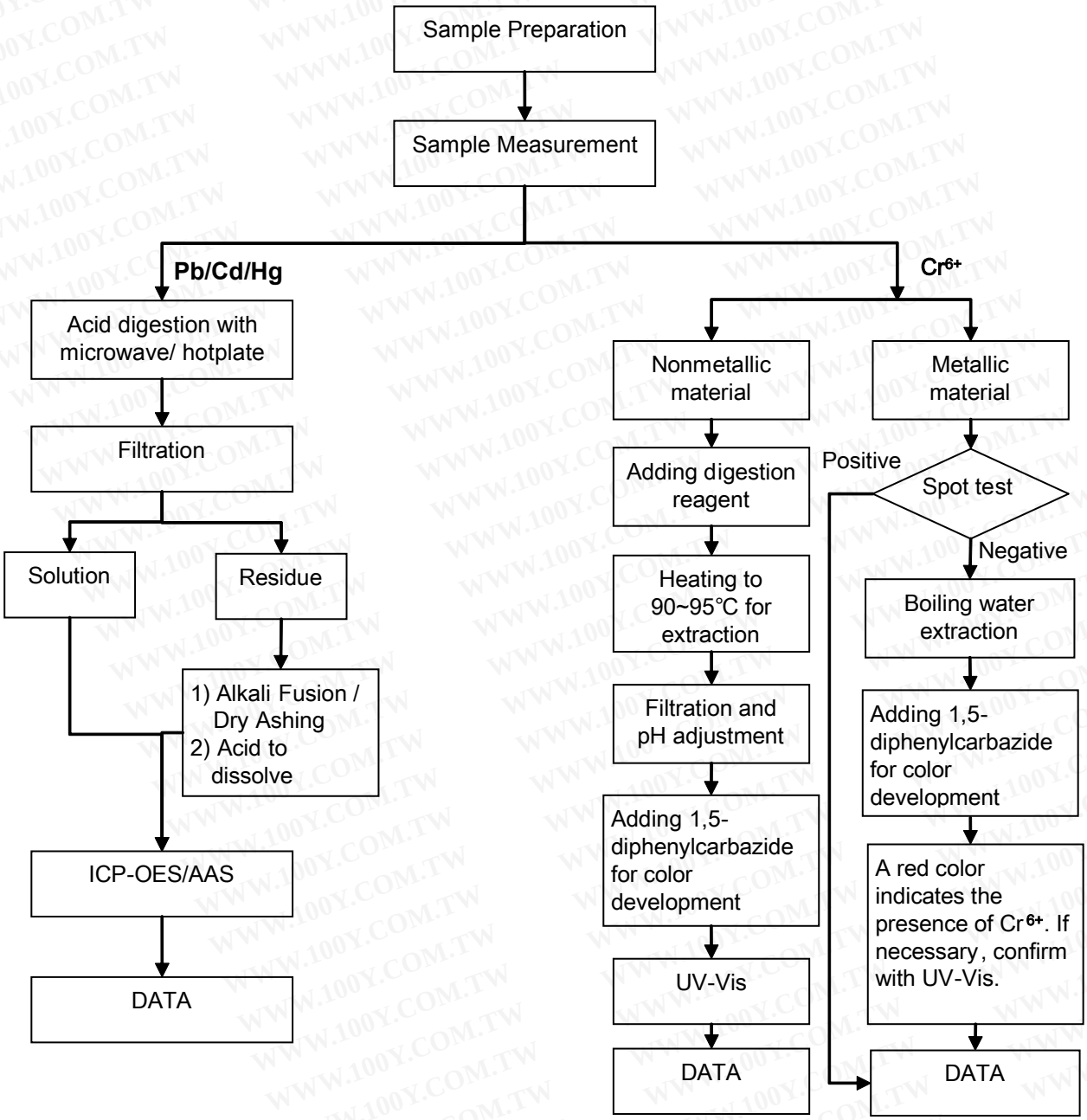
ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Bruce Xiao
2) Name of the person in charge of testing: Bella Wang
3) These samples were dissolved totally by pre -conditioning method accord ing to below flow chart (Cr6+ test method excluded).



Sample photo:

CAN15-156166.012

SGS authenticate the photo on original report only

*** End of Report ***

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