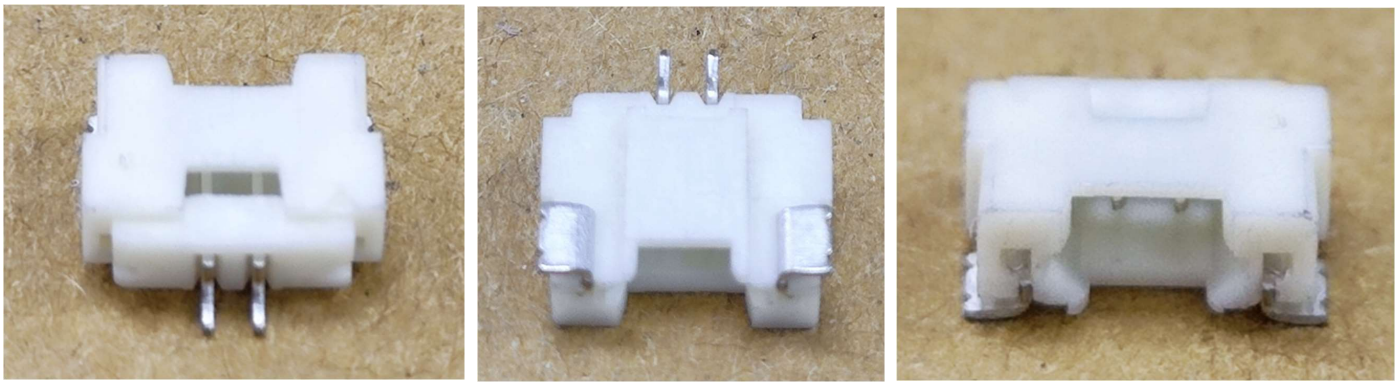
*2Pin



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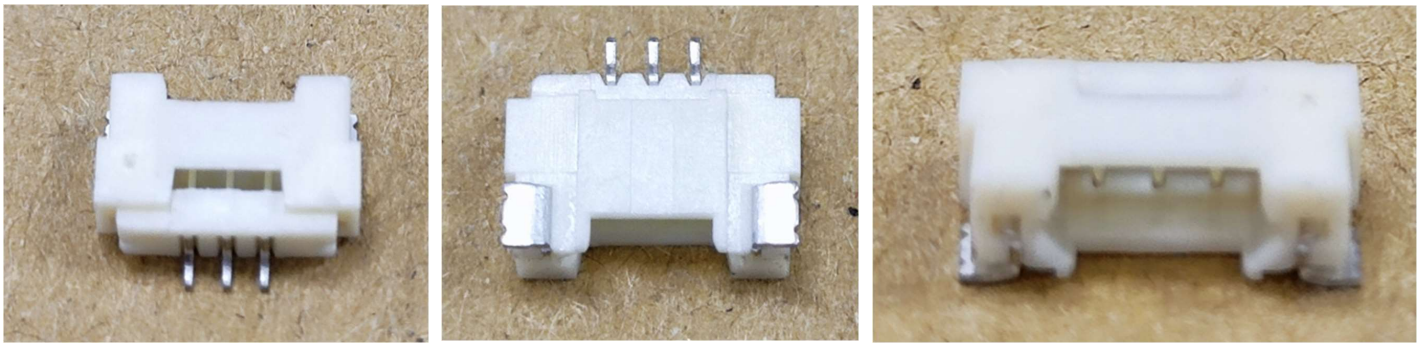

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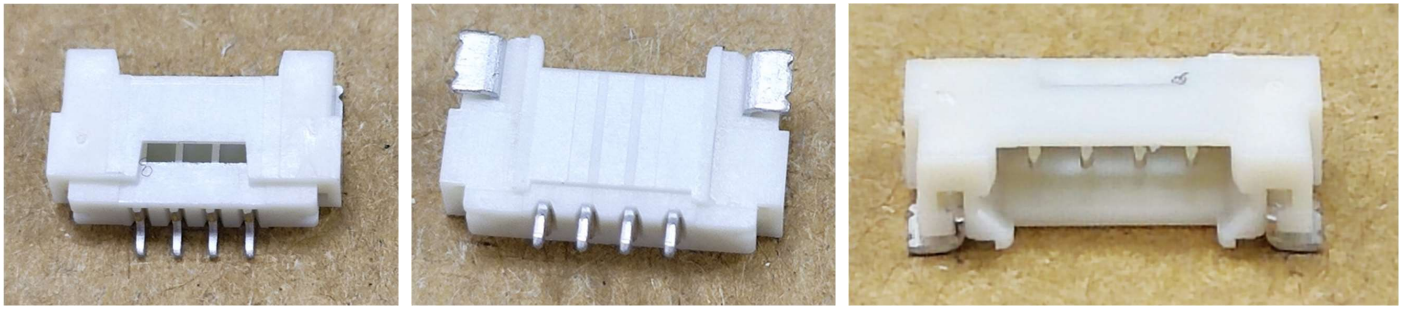

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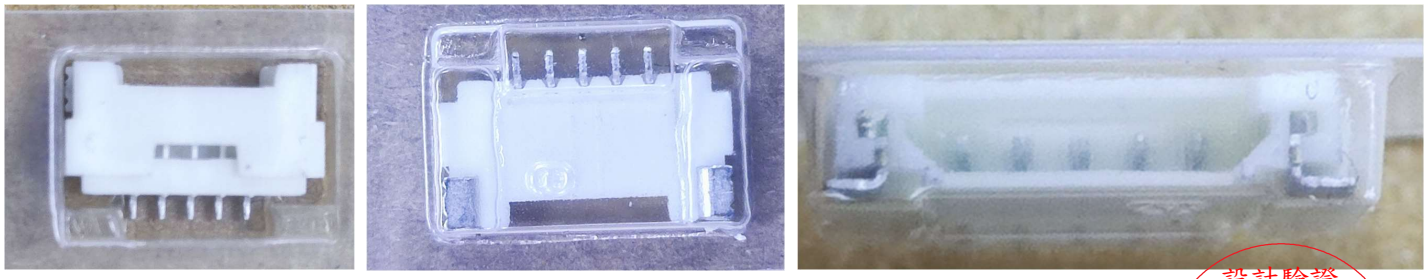


設計驗證
工程課
2024.03.13
發行
鈺緯科技開發股份有限公司

SUPERIOR TECH CO., LTD.

承 認 書
CUSTOMER APPROVAL SHEET

Customer:	鈺緯科技開發股份有限公司
Description:	PH1.25 Wafer 臥式 SMT
Customer's P/N:	3FM00217510/3FM00317510/3FM00417510/3FM00517510 (F0298)
Superior's P/N:	WRBB-HS002T3NNNI-B4/WRBB-HS003T3NNNI-B4 WRBB-HS004T3NNNI-B4/WRBB-HS005T3NNNI-B4
Date:	2024/02/16
Document No:	AVL-402-0002

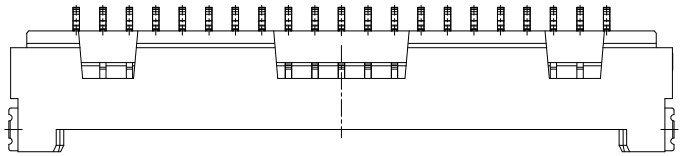
出 圖 DRAWING		
發行 MADE	檢查 CHECKED	承認 APPROVED
Jacky	Tom	Tom
日期 DATE:2024.02.16		

承 認 印 CUSTOMER APPROVE
設計驗證 工程課 2024.03.13
日期 DATE: 發行 鈺緯科技開發股份有限公司

竣豪電子股份有限公司 SUPERIOR TECH CO.,LTD.
地址:新北市三重區重新路5段609巷16號6樓之2
Tel:886-2-2278-7316 Fax:886-2-2278-7301

(Q2-R01-11A)

REV.	DESCRIPTION	DATE
A	New Drawing	2013/08/13
B	修正電鍍標準	2024/01/24



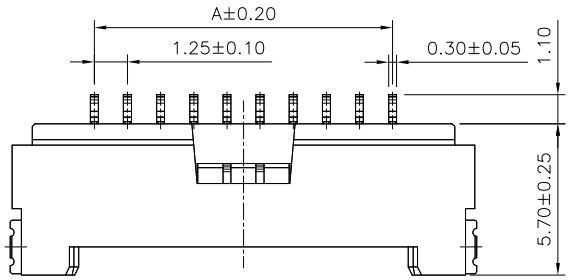
21P-30P

SCALE 0.8:1

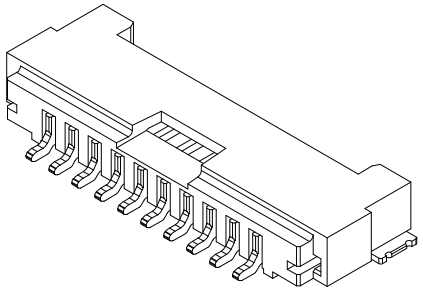
Poles	Dimensions (mm)				
	A	B	C	D	E
2	1.25	7.45	3.81	3.13	2.43
3	2.50	8.70	5.06	4.38	3.68
4	3.75	9.95	6.31	5.63	4.93
5	5.00	11.20	7.56	6.88	6.18
6	6.25	12.45	8.81	8.13	7.43
7	7.50	13.70	10.06	9.38	8.68
8	8.75	14.95	11.31	10.63	9.93
9	10.00	16.20	12.56	11.88	11.18
10	11.25	17.45	13.81	13.13	12.43
11	12.50	18.70	15.06	14.38	13.68
12	13.75	19.95	16.31	15.63	14.93
13	15.00	21.20	17.56	16.88	16.18
14	16.25	22.45	18.81	18.13	17.43
15	17.50	23.70	20.06	19.38	18.68
20	23.75	29.95	26.31	25.63	24.93
25	30.00	36.20	32.56	31.88	31.18
30	36.25	42.45	38.81	38.13	37.43

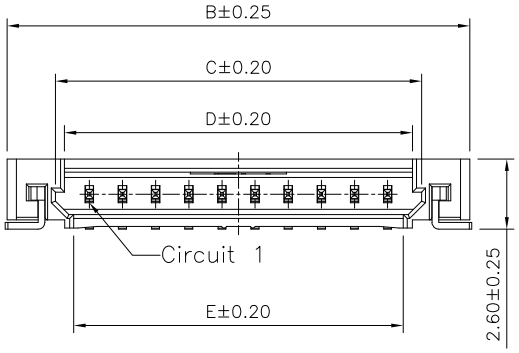
■ Specifications(规格)：

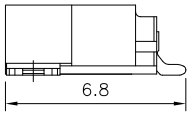
- Voltage rating(额定电压)：150V AC / DC
- Current rating(额定电流)：1A AC / DC
- Withstanding voltage(耐压值)：500V AC/minute
- Temperature range(工作温度)：-25°C~+85°C
- Insulation resistance(绝缘电阻)：≥500MΩ
- Contact resistance(接触电阻)：≤30mΩ
- After environmental testing(环境测试后)：≤40mΩ

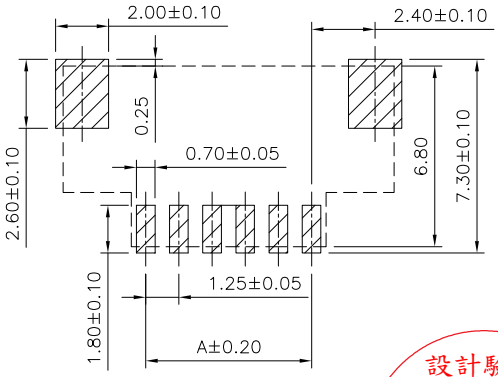


02P-20P









P.C.B LAYOUT

W R B B - H S X X X T 3 N N N I - B4

- PCB Contact Type: H Horizontal SMT
- Plastic Base: S Single Row
- Number of Contact: 02~30 contacts
- Contact Plating: T3 Matte Tin
- N Without"K"
- Base Color: N Natural
- Insulation: N NY-6T
- Packing: I REEL
- Series No.

設計驗證
工程課
2024.03.13
發行
鈺鋒科技開發股份有限公司

RoHS compliant

竣豪電子股份有限公司 Superior Tech Co., Ltd.	General Tolerance	TITLE	WAFER PH1.25 Horizontal SMT NY-6T T2/G1	
	X. ± 0.5	DRAWN Tom	DATE 01-24-24'	NO. D076
	.X ± 0.3			
	.XX ± 0.2	CHECK	DATE	PART NO. WRBB-HSXXXT3NNNI-B4
REV. B / UNIT mm / SCALE 1:1	.XXX ± 0.1	APPROVED	DATE	CUSTOMER NO. 3FMxxx17510(F0298)
	角度 ± 5°			

(Q2-R03-01A) ST-R05-07

SPECIFICATION AND PERFORMANCE
TALBE OF CONTENT

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7. Quality Assurance Provisions……..……9

Rev	Date	Description	Edited by	Approvals
A	2002/05/27	Issue	LiLi	Prepared: Yang Hong
				Checked: Fang Ling
				Approved: David

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1. Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of **wafer connector pitch P1.25mm**.

2. Reference Documents:

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.
A.EIA-364: The Test Sequence and Test Procedures for Electrical Connectors and Sockets.
B.UL Std-94: Test of Flammability of Plastic material for Parts in Devices and Appliances.

3. REQUIREMENTS:

3.1 Material of Components:

A. Housing: Thermoplastic, UL94V-0 or 94V-2 Rated
B. Contact: Copper Alloy

3.2 Design and Construction:

Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

3.3 Ratings:

A. Voltage:	150V AC/DC
B. Current:	1.0A AC/DC
C. Temperature:	-25℃~85℃

4. Performance and Test Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in paragraph 5. Unless otherwise specified, all tests are performed at ambient environmental conditions.

5.Test Requirements and Procedures Summary:

Electrical Performance		
Test Description	Test Procedures & Condition	Requirements
Examination Of Product	Meets requirements of product drawing and JG specification .	Visual in specification No Physical damage .
Low Level Contact Resistance	EIA 364-23 The object of this test procedure is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur. Subject mated contacts assembled in housing to closed circuit current of 100 mA maximum at open circuit at 20 mV maximum.	1.Initial:20 mΩ max 2.After Test:40 mΩ max
Insulation Resistance	EIA 364-21 The object of this test procedure is to detail a standard method to assess the insulation resistance of connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Voltage: 500 Vdc.	100MΩ minimum

Test Description	Test procedures & Condition	Requirements
Dielectric Withstanding Voltage	EIA 364-20 The object of this test procedure is to detail a test method to prove that a connector can operate safety at its rated voltage and withstand momentary over potentials due to switching, surges and / or other similar phenomena. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Potential: 500Vac at sea level Test Duration: 60 seconds	1. No flashover, No sparkover, No excess leakage, No breakdown 2. Current leakage ＜0.5mA

Mechanical Performance		
Test Description	Test Procedures & Condition	Requirements
Flammability	UL 94V-0 This procedure is to ensure thermoplastic resin compliance to UL flammability standards.	The manufacturer will require its thermoplastic resin vendor to supply a detailed C of C with each resin shipment. The C of C shall clearly show the resin's UL listing number, lot number, date code, etcetera.
Contact Retention	EIA 364-29 The object of this test is to detail a standard method to assess the ability of the contact retaining system to withstand the axial mechanical stresses likely to be encountered during normal usage. Subject unmade connector to measure the axial seating load forces required taking up any slack of the contact in its retention system. Apply an axial load to the contact at a rate of approximately 1lbs per second. Record by using autograph.	Per Pin: 250gf / per pin min
Durability	EIA 364-09 The object of this test procedure is to detail a uniform test method of determining the effects caused by subjecting a connector to the conditioning action of insertion and extraction, simulating the expected life o the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress.	1. 50 insertion / extraction cycles at a maximum rate of 500 cycles per hour. 2. No evidence of damage. 3. The electrical performances should meet the spec. Specified.

Test Description	Test Procedures & Condition	Requirements
Solderability	EIA 364-52 Category 3 The object of this test procedure is to detail a uniform test method for determining connector solder ability. The test procedure contained herein utilizes the solder dip technique. It is not intended to test or evaluate solder cup, solder solder eyelet, other hand-soldered type or SMT type terminations. Subject unmated connectors should be tested according to the listed below: Steam Aging Temperature : 90~96℃ Steam Aging Duration : 8 hours±5min Soldering Temperature : 245±5℃ Soldering Time: 4~5 seconds Flux: Unactivated	Continuous solder coating with a minimum 95% coverage.

Environmental Performance		
Test Description	Test Procedures & Condition	Requirements
Humidity (Temperature Cycling)	EIA 364-31 Method III Test Condition A The object of this procedure is to detail a standard test method for the evaluation of the properties of materials used in connectors as they are influenced by the effects of high humidity and heat. Subject mated and unmated connectors should be tested according to the condition listed below: Temperature : 25~65℃ Humidity: 90~95%(R.H) Duration: 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. Specified.
Salt Spray	EIA 364-26 Test Condition A The object for this test procedure is to detail a standard test method to assess the effects of a controlled salt laden atmosphere on connector components, finishes and mechanisms. Subject mated and unmated connectors should be tested according to the condition listed below: Temperature : 35±1.1℃ Humidity: 95~98% (R.H.) PH Value: 6.5~7.2 Duration: 8 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. Specified.
Temperature Life	EIA 364-17 Test Condition 3 Method A The object of this test is to detail a standard test method to assess the ability of a connector to withstand elevated temperatures with or without electrical loading. Subject mated connectors should be tested according to the condition listed below: Temperature : 85±2℃ Duration: 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. Specified.

Note : Shall meet visual requirements ,show no physical damage ,and shall meet requirements

of additional tests as specified in Test Sequence in paragraph 6 .

6. Product Qualifications and Qualification Test Sequence:

A. Sample Selection:

Test samples shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production.

B. Test Sequence:

The following is an example of how the test sequence works: In Test Group 8, the first test is (1), examination of product, followed by test (2), Temperature Life , followed by test (3), examination of product .Six samples are tested in this test group.

Test Description Sequence	Test Group							
	1	2	3	4	5	6	7	8
Examination of product	1,3	1,3	1,5	1,7	1,9	1,6	1,3	1.3
Low Level Contact Resistance		2,	2,4		2,6	2,4		
Insulation Resistance				2,5	3,7			
Dielectric Withstanding Voltage				3,6	4,8			
Contact Retention	2							
Durability						3	2	
Solder ability						5		
Humidity				4				
Salt Spray					5			
Temperature Life			3					2
Sample Size per Test Group	8	8	8	8	8	8	8	6

7. Quality Assurance Provisions :

Unless otherwise specified , in the contract or purchase order , we will be responsible for the quality of the part as it is delivered to client . We will be responsible for having controlled processes to ensure product is in total compliance with this specification .Failing lots shall be subject to return or other corrective action .

Further , JG will not substitute components of the assembly (connector , cable , etc) without prior written approval from client .Any such substitute shall be submitted to client for approval prior to implementation . Substitution shall be deemed as any change in JG different than those previously submitted to and approved by client .

7.1. Re-qualification Testing :

If changes significantly affecting form , fit or function are made to the product or manufacturing process , product assurance shall coordinate qualification testing , consisting of all or part of the original testing sequence as determined by development / product , quality and reliability engineering .

7.2 Acceptance :

Acceptance is based on verification that the product meets the requirement of paragragh 5 . Failures attributed to equipment , test setup or operator deficiencies shall not disqualify the product . When product failure occurs , corrective action shall be taken and samples resubmitted for qualification . Test to confirm corrective action is required before resubmittal .

7.3 Inspection Data :

Inspection and test data shall be recorded , evaluated , and maintained as evidence of performance to these provisions .

7.4 Quality Conformance Inspection :

Applicable JG quality inspection plan will specify the sampling acceptable quality level to be used . Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification .

7.5 Preparation for Delivery :

Overall packaging shall be sufficient to protect against damage or loss during shipment from JG to destination specified in the purchase order .

Test Report

No.: SHAPH23021281401 **Date:** Jan 02, 2024

Client Name: Mitsui Chemicals Inc.

Client Address: Tokyo Midtown Yaesu, Yaesu Central Tower 2-2-1 Yaesu, Chuo-ku, Tokyo 104-0028, Japan

Sample Name: Arlen

Material and Mark: E630N-CHINA

The above sample(s) and information were provided by the client.

SGS Job No.: SHIN2312009388PL01

Sample Receiving Date: Dec 18, 2023

Testing Period: Dec 18, 2023 ~ Jan 02, 2024

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

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

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

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Jerry Jiang
Approved Signatory

Scan to see the report

SHAPH23021281401
Verification:
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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86–21) 61402553 f E&E (86–21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86–21) 61402594 f HL (86–21)61156899 e sgs.china@sgs.com

Test Result(s):

Test Part Description：

SN ID	Sample No.	SGS Sample ID	Description
SN1	001	SHA23-0212814-0001.C001	White solid particles

Remarks:

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

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	001
Lead (Pb)	1000	mg/kg	2	5
Mercury (Hg)	1000	mg/kg	2	ND
Cadmium(Cd)	100	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND
Polybromobiphenyl (PBBs)	1000	mg/kg	-	ND
Monobromobiphenyl (MonoBB)	-	mg/kg	5	ND
Dibromobiphenyl (DiBB)	-	mg/kg	5	ND
Tribromobiphenyl (TriBB)	-	mg/kg	5	ND
Tetrabromobiphenyl (TetraBB)	-	mg/kg	5	ND
Pentabromobiphenyl (PentaBB)	-	mg/kg	5	ND
Hexabromobiphenyl (HexaBB)	-	mg/kg	5	ND
Heptabromobiphenyl (HeptaBB)	-	mg/kg	5	ND
Octabromobiphenyl (OctaBB)	-	mg/kg	5	ND
Nonabromobiphenyl (NonaBB)	-	mg/kg	5	ND
Decabromobiphenyl (DecaBB)	-	mg/kg	5	ND
Polybromodiphenyl ether(PBDEs)	1000	mg/kg	-	ND
Monobromodiphenylether (MonoBDE)	-	mg/kg	5	ND
Dibromodiphenylether (DiBDE)	-	mg/kg	5	ND
Tribromodiphenylether (TriBDE)	-	mg/kg	5	ND
Tetrabromodiphenylether (TetraBDE)	-	mg/kg	5	ND
Pentabromodiphenylether (PentaBDE)	-	mg/kg	5	ND
Hexabromodiphenylether (HexaBDE)	-	mg/kg	5	ND
Heptabromodiphenylether (HeptaBDE)	-	mg/kg	5	ND
Octabromodiphenylether (OctaBDE)	-	mg/kg	5	ND
Nonabromodiphenylether (NonaBDE)	-	mg/kg	5	ND
Decabromodiphenylether (DecaBDE)	-	mg/kg	5	ND
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate(BBP)	1000	mg/kg	50	ND

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Test Item(s)	Limit	Unit(s)	MDL	001
Dibutyl Phthalate(DBP)	1000	mg/kg	50	ND
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	ND

Notes:
(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
(2) IEC 62321 series is equivalent to EN 62321 series.
(3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

Halogen

Test Method: With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit(s)	MDL	001
Fluorine(F)	mg/kg	20	613
Chlorine(Cl)	mg/kg	50	ND
Bromine(Br)	mg/kg	50	89919*
Iodine(I)	mg/kg	50	ND

Hexabromocyclododecane (HBCDD/HBCD)

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

Test Item(s)	CAS No.	Unit(s)	MDL	001
Hexabromocyclododecane (HBCDD)	134237-50-6 /134237-51-7 /134237-52-8 /25637-99-4 /3194-55-6	mg/kg	10	ND

Perfluorooctanesulfonate (PFOS) and its derivatives and Perfluorooctanoic Acid (PFOA)

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

Test Item(s)	CAS No.	Unit(s)	MDL	001
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.050	ND
Perfluorooctanesulfonic acid (PFOS)^	1763-23-1	mg/kg	0.025	ND

Notes:
(1) +PFOA refer to its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
(2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH_4 (CAS No.: 29081-56-9), PFOS-$NH(OH)_2$ (CAS No.: 70225-14-8), PFOS-$N(C_2H_5)_4$ (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7).

Phthalates

Test Method: With reference to EN 14372:2004, analysis was performed by GC-MS.

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Test Item(s)	CAS No.	Unit(s)	MDL	001
Diisononyl Phthalate (DINP)	28553-12-0 /68515-48-0	%	0.010	ND
Di-n-Octyl Phthalate(DNOP)	117-84-0	%	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 /68515-49-1	%	0.010	ND
Dipentyl Phthalate (DnPP)	131-18-0	%	0.003	ND
Di-n-Hexyl Phthalate(DnHP)	84-75-3	%	0.003	ND

American Society for Testing and Materials –ASTM F 963-17 – soluble Heavy Metal for paint and similar surface-coating materials/ Substrate Materials

Test Method: With reference to ASTM F 963-17 (Clause 8.3), analysis was performed by ICP-OES.

Test Item(s)	Limit	Unit(s)	MDL	001
Soluble Lead(Pb)	90	mg/kg	5	ND
Soluble Antimony(Sb)	60	mg/kg	5	20
Soluble Arsenic(As)	25	mg/kg	2.5	ND
Soluble Barium(Ba)	1000	mg/kg	10	ND
Soluble Chromium(Cr)	60	mg/kg	5	ND
Soluble Cadmium(Cd)	75	mg/kg	5	ND
Soluble Mercury(Hg)	60	mg/kg	5	ND
Soluble Selenium(Se)	500	mg/kg	10	ND

Notes:
(1) Results shown are of the adjusted analytical results.

Remark:
*The reported result is for reference only.
Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (*w*=0) stated in ILAC-G8:09/2019.

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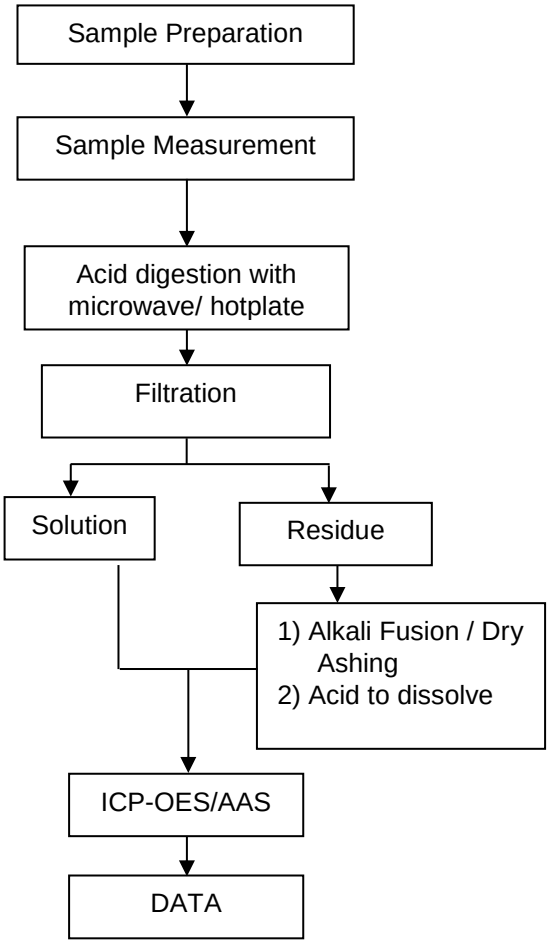
Elements Testing Flow Chart

These samples were dissolved totally by pre-conditioning method according to below flow chart.



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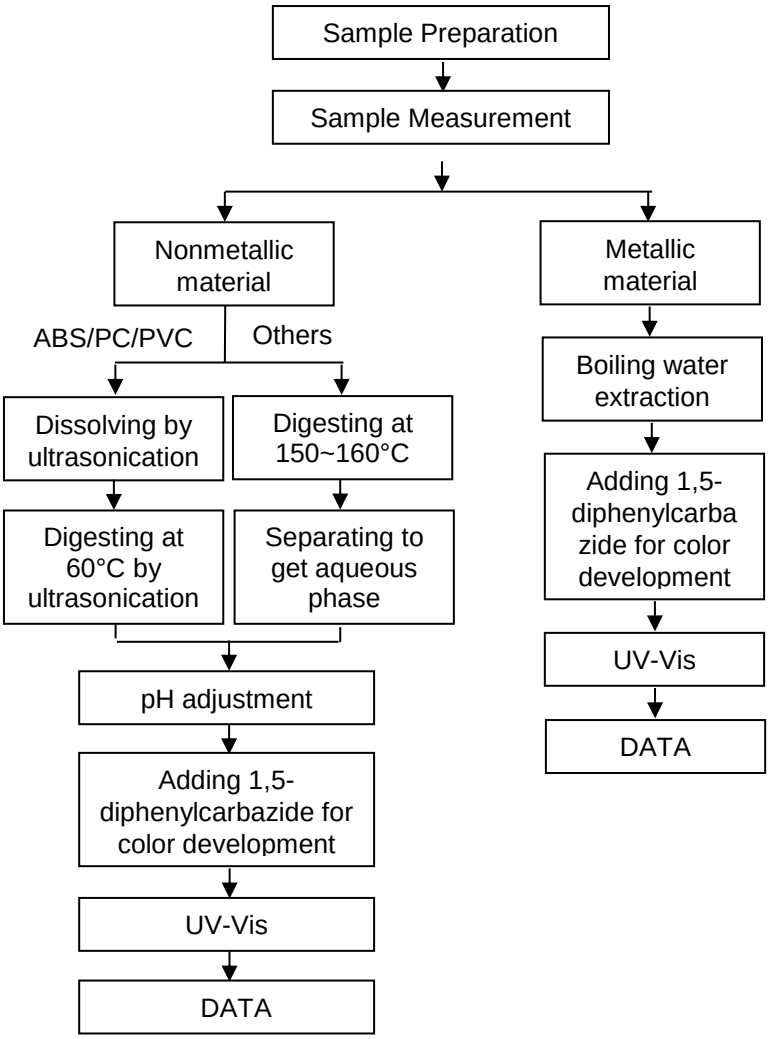
Hexavalent Chromium (Cr(VI)) Testing Flow Chart



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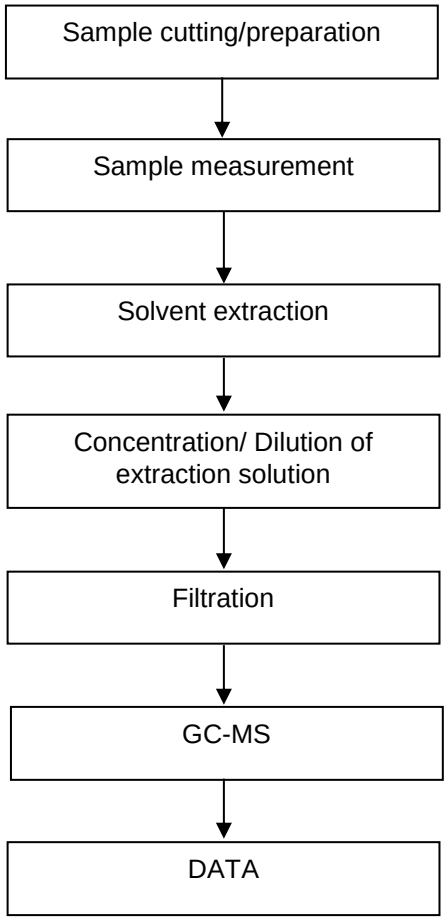
PBBs/PBDEs Testing Flow Chart



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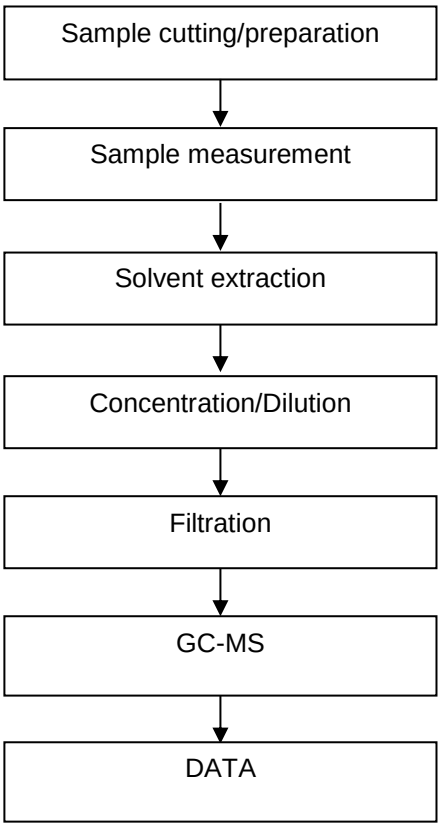
Phthalates Testing Flow Chart



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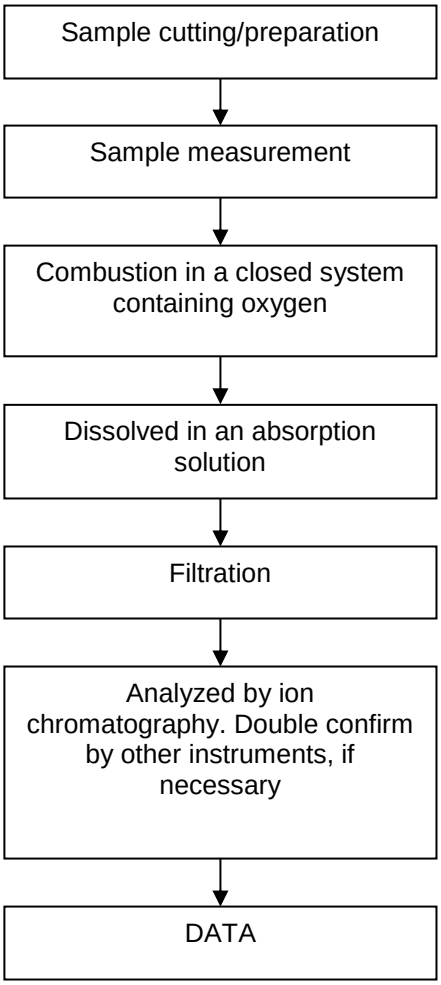
Halogen Testing Flow Chart



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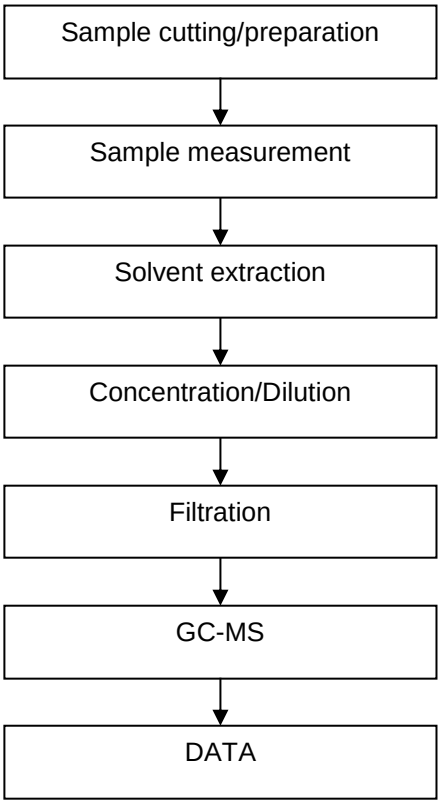
HBCDD Testing Flow Chart



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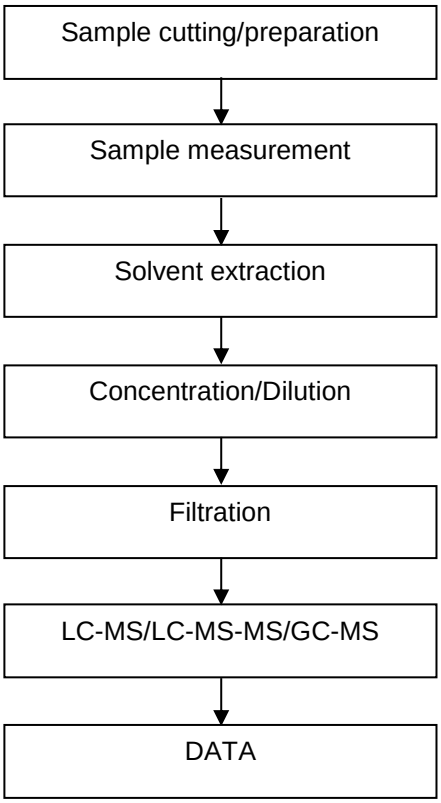
PFASs/ PFOS/PFOA Testing Flow Chart



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MATERIAL SAFETY DATA SHEET

Date May 31, 2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **ARLEN**
(GF-reinforced, flame-proof grades)

COMPANY IDENTIFICATION:
Performance Compound Division
Mitsui Chemicals, Inc.
Shiodome City Center
1-5-2, Higashi-Shimbashi, Minato-ku
Tokyo 105-7117, Japan
Telephone: +81-3-6253-3494 Telefax: +81-3-6253-4219

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:
PHYSICAL HAZARDS

Explosives	: Not applicable.
Flammable gases	: Not applicable.
Flammable aerosols	: Not applicable.
Oxidizing gases	: Not applicable.
Gases under pressure	: Not applicable.
Flammable liquids	: Not applicable.
Flammable solids	: Classification not possible.
Self-reactive substances and mixtures	: Not applicable.
Pyrophoric liquids	: Not applicable.
Pyrophoric solids	: Not classified.
Self-heating substances and mixtures	: Classification not possible.
Substances and mixtures, which in contact with water, emit flammable gases	: Classification not possible.
Oxidizing liquids	: Not applicable.
Oxidizing solids	: Classification not possible.
Organic peroxides	: Not applicable.
Corrosive to metals	: Classification not possible.

HEALTH HAZARDS

Acute toxicity: oral	: Not classified.
Acute toxicity: skin	: Not classified.
Acute toxicity: inhalation (gas)	: Not applicable.
Acute toxicity: inhalation (vapor)	: Not applicable.
Acute toxicity: inhalation (dust)	: Classification not possible.
Acute toxicity: inhalation (mist)	: Not applicable.
Skin corrosion/irritation	: Classification not possible.
Serious eye damage/eye irritation	: Category 2
Respiratory sensitization	: Classification not possible.
Skin sensitization	: Classification not possible.
Germ cell mutagenicity	: Classification not possible.
Carcinogenicity	: Category 2
Toxic to reproduction	: Classification not possible.
Specific target organ toxicity (single exposure)	: Category 3 (respiratory irritation)
Specific target organ toxicity (repeated exposure)	: Category 2 (lung, cardiovascular system)
Aspiration hazard	: Classification not possible.

ENVIRONMENTAL HAZARDS

Hazardous to the aquatic environment (acute)	: Classification not possible.
Hazardous to the aquatic environment (chronic)	: Classification not possible.

GHS LABEL ELEMENTS:

PICTOGRAMS:



SIGNAL WORD: WARNING

HAZARD STATEMENTS:
Causes serious eye irritation.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to lung and cardiovascular system through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:
Prevention:
Obtain special instructions before use, and DO NOT handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area and DO NOT breathe dust/fume.
Use personal protective equipment; protective helmet/eye protection/face protection/respirator/protective gloves/protective clothing/safety shoes as required.
Wash hands, face, and other necessary parts thoroughly, and gargle after handling.
Avoid release to the environment.

Response:
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF exposed or concerned, or if you feel unwell: Get medical advice/attention.

Storage:
Keep container tightly closed. Store in cool/well ventilated area. Store locked up.

Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.
Do not reuse the container for any other purpose. Dispose of in accordance with applicable laws and regulations.

OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION:
Slippery, can cause falls if walked on.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%	CAS No.
Polyamide resin	50	25776-72-1
Glass fiber	30	65997-17-3
Brominated flame retardant	14	88497-56-7
Antimony compound	< 10 *	-
Other components	-	-

* See Appendix.

4. FIRST AID MEASURES

INHALATION:
If exposed to excessive levels of fumes, remove to fresh air. Get medical attention if cough or other symptoms develop. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep the affected person warm and at rest.

EYE CONTACT:
Immediately flush eyes with plenty of water for several minutes and get medical attention.
Part eyelids with fingers to assure complete flushing.
Check for and remove contact lenses if easily possible.

SKIN CONTACT:
Immediately remove contaminated clothing and shoes. Flush skin with large amounts of water, clean off with soap and water. Get medical attention if symptoms develop.
If molten polymer contacts the skin, cool immediately with cold water. Do not attempt to peel polymer from the skin. Get medical attention for thermal burn.

INGESTION:
Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Keep the affected person warm and at rest. Get medical attention immediately.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED:
Fumes from heated molten polymer may cause irritation to eye and respiratory system. Dust may cause irritation to eye and skin.

SPECIAL PROTECTIVE ACTIONS FOR FIRST-AIDERS:
Wear appropriate personal protective equipment such as

respirator, goggles, protective gloves, etc.

NOTE TO PHYSICIAN:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: water jet, water fog, dry chemical, CO_2, alcohol foam.
Initial fire: dry chemical or CO_2.
Large fire: water or foam.

UNSUITABLE EXTINGUISHING MEDIA: Not specified.

SPECIAL HAZARDS:
Emits toxic fumes under fire conditions.

FIRE FIGHTING INSTRUCTIONS:
Keep unnecessary and unprotected personnel away. Shut off supply if possible. Remove containers to safe place if possible. Keep surrounding areas cool by spraying water. Fight fire from an upwind position.

FIRE FIGHTING EQUIPMENT:
Respiratory and eye protection required for fire-fighting personnel. Full protective equipment and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires.

HAZARDOUS COMBUSTION PRODUCTS:
Carbon oxides, nitrogen oxides, hydrogen bromide, antimony oxide.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:
Evacuate immediate area. Warn personnel of health hazard. Keep unnecessary and unprotected personnel away. Wear appropriate personal protective equipment as specified in Section 8. Keep upwind, evacuate downwind.

ENVIRONMENTAL PRECAUTIONS:
Product is non-biodegradable; may cause long-term adverse effects in the aquatic environment.
Do not let this chemical enter the environment. Do not flush into sewer, river or any body of water.

CONTAINMENT/CLEAN-UP METHODS:
Vacuum or sweep up material and place in a disposal container. Use non-sparking tools and equipment.

7. HANDLING AND STORAGE

HANDLING
Technical Measures:
Use only in well-ventilated area. Keep away from heat, sparks, and flame. Use explosion-proof electrical equipment. Take precautions against build-up of electrostatic charges.
Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Wear appropriate personal protective equipment. Provide hand and eye wash station near work area. Wash thoroughly after handling.

Ventilation:
Use only under local exhaust or general ventilation.

Safe Handling Advice:
Do not handle until all safety precautions have been read and understood. Take precautions against build-up of electrostatic charges. Avoid dust formation. Do not breathe dust.

STORAGE
Storage Conditions:
Protect from direct sunlight. Store in dark and well-ventilated area. Keep away from heat, flame, and all sources of ignition. Ground and bond containers and equipment to prevent build-up of electrostatic charges. Store locked up. Store in a segregated and approved area.

Packaging Material:
Product is hygroscopic. Use aluminum-lined paper bags.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:
< Continuous filament Glass fibers >
ACGIH-TLV: 1 fibers/cc(TWA)
5 mg/m^3(TWA) Inhalable fraction
OSHA-PEL : Not established

< Antimony compound >
ACGIH-TLV: 0.5 mg/m^3(TWA) as Sb
OSHA-PEL : 0.5 mg/m^3(TWA) as Sb

ENGINEERING CONTROLS:
Provide general ventilation. Use closed system or local exhaust ventilation. Provide safety shower and eye wash station near work area.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection	: Dust respirator.
Hand protection	: Protective gloves.
Eye protection	: Safety glasses, goggles.
Skin and body protection	: Safety helmet, protective clothing, safety shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	: Solid.
APPEARANCE	: Colored pellet.(See Appendix)
ODOR	: Characteristic odor.
pH	: Not available.
BOILING POINT	: Not available.
MELTING POINT	: 310 - 320 °C (See Appendix)[1)]
FLASH POINT	: > 200 °C [1)]
AUTOIGNITION TEMPERATURE	: Not available.
FLAMMABLE LIMITS	: Not available.
VAPOR PRESSURE	: Not available.
VAPOR DENSITY	: Not available.
SPECIFIC GRAVITY	: 1.30 – 1.80 (at 4 °C)[1)]
SOLUBILITY	: Insoluble in water.[1)]
Log Pow	: Not available.
DECOMPOSITION TEMPERATURE	: Not available.

10. STABILITY AND REACTIVITY

STABILITY	: Stable for normal storage and handling.
HAZARDOUS REACTIONS	: Not available.
CONDITIONS TO AVOID	: Heat, air, sunlight.
MATERIALS TO AVOID	: Not available.

HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon oxides, nitrogen oxides, hydrogen bromide, antimony oxide.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Oral LD_{50} >5000 mg/kg(Calculated value for the mixture) [Not classified][1),2),3),4)]
Skin LD_{50} >5000 mg/kg(Calculated value for the mixture) [Not classified][1),2),3),4)]
Inhalation Not available.[Classification not possible]

SKIN CORROSION/IRRITATION:
[Classification not possible][1),2),3),4)]

SERIOUS EYE DAMAGE/EYE IRRITATION:
Causes serious eye irritation. [Category 2][1),2),3),4)]

RESPIRATORY SENSITIZATION:
Not available. [Classification not possible]

SKIN SENSITIZATION:
Not available. [Classification not possible]

GERM CELL MUTAGENICITY:
Not available. [Classification not possible]

CARCINOGENICITY:
Suspected of causing cancer. [Category 2][1),2),3),4)]

REPRODUCTIVE TOXICITY:
Not available. [Classification not possible]

SPECIFIC TARGET ORGAN TOXICITY:
Single Exposure :[Category 3] (respiratory irritation)[1),2),3),4)]
Repeated Exposure :[Category 2](lung, cardiovascular system)[1),2),3),4)]

ASPIRATION HAZARD:
Not available. [Classification not possible]

The following information is for the components of this product.
As for ANTIMONY COMPOUND, see “GHS Classifications of Regulated Chemicals” for further information.
(http://www.safe.nite.go.jp/english/ghs_index.html)

< Glass fiber >
SKIN CORROSION/IRRITATION: Mild [3)]

SERIOUS EYE DAMAGE/EYE IRRITATION: Mild [3)]

CARCINOGENICITY:
Classified in group 3 (Unclassifiable as to carcinogenicity in humans) by IARC.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):
Irritating to skin, eye, nose and may cause difficult breathing.[3)]

< Brominated flame retardant >
ACUTE TOXICITY:
Oral rat LD_{50} >5000 mg/kg [4)]
Skin rat LD_{50} >15000 mg/kg [4)]

SKIN CORROSION/IRRITATION:
Rabbit Mild.[4)]

SERIOUS EYE DAMAGE/EYE IRRITATION:
Rabbit Mild to moderate.[4)]

12. ECOLOGICAL INFORMATION

HAZARDOUS TO THE AQUATIC ENVIRONMENT (ACUTE):
Not available. [Classification not possible]

HAZARDOUS TO THE AQUATIC ENVIRONMENT (CHRONIC):
Not available. [Classification not possible]

The following information is for the components of this product.
As for ANTIMONY COMPOUND, see “GHS Classifications of Regulated Chemicals” for further information.
(http://www.safe.nite.go.jp/english/ghs_index.html)

13. DISPOSAL CONSIDERATIONS

WASTE FROM RESIDUES:
Whatever cannot be saved for recovery may be burned in an approved incinerator or disposed in approved waste facility. Ensure compliance with local, state, federal and national regulations.

CONTAMINATED PACKAGING:
Empty the container completely before disposal.

14. TRANSPORT INFORMATION

UN number : None.
UN class : Not regulated.

15. REGULATORY INFORMATION

INVENTORY STATUS
X: All components of this product comply with the inventory requirements administered by the governing country(s).

United States : TSCA Inventory [X]
European Union: EINECS [X] ELINCS [ ] NLP [ ]
Australia : AICS [ ]
Canada : DSL [X] NDSL [ ]
China : IECSC [X]
Japan : ENCS [X]
Korea : KECI [X]
New Zealand : NZIoC [X]
Philippine : PICCS [ ]

16. OTHER INFORMATION

References:
1) In-house data
2) GHS Classifications of Regulated Chemicals (National Institute of Technology and Evaluation, Japan, 2007)
3) NIOSH Pocket Guide (2007)
4) NICNAS Priority Existing Chemical Assessment Report No.20 (2001)

To the best of our knowledge, the information contained herein is accurate.
However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Appendix
This Material Safety Data Sheet covers these products:

Grade name	Appearance	Melting Point(°C)	Hazardous components
CH230N	Light-yellow pellet	310	Antimony compound 2.9%
CH230NC	Brown pellet	310	Antimony compound 2.9%
CH230NS	Light-yellow pellet	310	Antimony compound 2.9%
C215N	Light-yellow pellet	310	Antimony compound 5.8%
CH230NH	Gray pellet	310	Antimony compound 4.0%
CH230NR	Red pellet	310	Antimony compound 2.9%
C430N	Light-yellow pellet	310	Antimony compound 2.9%
E430N	Light-yellow pellet	320	Antimony compound 4.1%
E430N(T5)	Light-yellow pellet	320	Antimony compound 2.0%
E430NHS	Gray pellet	320	Antimony compound 3.9%
E430NHS(J)	Gray pellet	320	Antimony compound 3.9%
E430NS	Light-yellow pellet	320	Antimony compound 4.1%
E430NS(J)	Light-yellow pellet	320	Antimony compound 2.0%
E440N	Light-yellow pellet	320	Antimony compound 1.8%
E440NA	Blue pellet	320	Antimony compound 1.7%
E630N	Light-yellow pellet	320	Antimony compound 2.0%
E630NA	Blue pellet	320	Antimony compound 2.0%
E630NR	Red pellet	320	Antimony compound 2.0%

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The information presented on the UL Prospector datasheet was acquired by UL Prospector from the producer of the material. UL Prospector makes substantial efforts to assure the accuracy of this data. However, UL Prospector assumes no responsibility for the data values and strongly encourages that upon final material selection, data points are validated with the material supplier.

Component - Plastics

E52579

Guide Information

MITSUI CHEMICALS INC

SHIODOME CITY CENTER, 1-5-2 HIGASHI-SHINBASHI, MINATO-KU TOKYO 105-7122 JP

E630N(e)

Polyamide 6T (PA6T) "Arlen", furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.4	-	-	-	-	-	-
	0.75	V-0	-	-	120	110	110
	1.5	V-0	-	-	120	120	120
	3.0	V-0	-	-	120	120	120

Comparative Tracking Index (CTI): 1

Inclined Plane Tracking (IPT) kV: -

Dielectric Strength (kV/mm): -

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

High-Voltage Arc Tracking Rate (HVTR): -

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

Dimensional Stability (%): -

(e) - May be followed by 1 to 4 digits and/or letters except N and combinations starting with N. For grade CH230N(e)(r), letter H should also be excepted and for grade C240(e), letter V1 should also be excepted.

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

Report Date: 2005-10-26

Last Revised: 2018-03-26

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IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.75	V-0 (ALL)
			1.5	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	0.4	960
			0.75	960
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	0.4	960
			0.75	960
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-

检测报告

编号：SHAEC23020571016　　**日期：**2023 年 12 月 19 日　　

客户名称：　安徽鑫科铜业有限公司

客户地址：　安徽省芜湖市经济技术开发区凤鸣湖南路 21 号

样品名称：　黄铜带 C2680(H65/C26800/CuZn36)

以上样品及信息由客户提供。

SGS 工作编号：　TIC10202312061104234PBF

样品接收时间：　2023 年 12 月 07 日

检测周期：　2023 年 12 月 07 日 ~ 2023 年 12 月 13 日

检测要求：　根据客户要求检测。

检测方法：　见后续页。

检测结果：　见后续页。

检测要求	结论
欧盟 RoHS 指令 2011/65/EU 附录 II 的修正指令(EU) 2015/863- 铅、汞、镉、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸二丁酯 (DBP)、邻苯二甲酸丁苄酯(BBP)、邻苯二甲酸二(2-乙基已基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP)	符合
元素	见检测结果
卤素	见检测结果

通标标准技术服务（上海）有限公司

授权签名

盛雯舒

Sue Sheng 盛雯舒

批准签署人

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通标标准技术服务（上海）有限公司 检验检测专用章 Inspection & Testing Services

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. Testing Center-Chemical Laboratory

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检测结果：

检测部件外观描述:

样品序号	样品编号	SGS 样品 ID	样品描述
SN1	A8	SHA23-0205710-0001.C008	黄色金属

备注：

(1) 1 mg/kg = 1 ppm = 0.0001%
(2) MDL= 方法检测限
(3) ND = 未检出(< MDL)
(4) "-" = 未规定

欧盟 RoHS 指令 2011/65/EU 附录 II 的修正指令(EU) 2015/863- 铅、汞、镉、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸二丁酯 (DBP)、邻苯二甲酸丁苄酯(BBP)、邻苯二甲酸二(2-乙基已基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP)

检测方法： 参考 IEC 62321-4:2013+AMD1:2017， IEC 62321-5:2013， IEC 62321-7-1:2015， IEC 62321-6:2015 和 IEC 62321-8:2017， 采用 ICP-OES，UV-Vis 和 GC-MS 进行分析。

检测项目	限值	单位	MDL	A8
镉 (Cd)	100	mg/kg	2	ND
铅 (Pb)	1000	mg/kg	2	10
汞 (Hg)	1000	mg/kg	2	ND
六价铬(Cr(VI))▼	-	μg/cm²	0.10	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND
二溴联苯(DiBB)	-	mg/kg	5	ND
三溴联苯(TriBB)	-	mg/kg	5	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND

检验检测专用章 Inspection & Testing Services
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检测项目	限值	单位	MDL	A8
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND

备注：

(1) 最大允许极限值引用自RoHS指令(EU) 2015/863。
(2) IEC 62321系列等同于 EN 62321系列。
(3) ▼ = a. 当六价铬的浓度高于0.13 μg/cm²时，样品为阳性，即含有六价铬；
b. 当六价铬的浓度为ND (低于0.10 μg/cm²) 时，样品为阴性，即未检测到六价铬；
c. 当六价铬的浓度介于0.10 μg/cm²与0.13 μg/cm²之间时，无法直接判定是否检测到六价铬，因不同个体的样品表面差异可能会影响测定结果。

由于未获知样品的存储条件和生产日期，样品的六价铬检测结果仅能代表检测时样品含六价铬的状态。

元素

检测方法： 参考 US EPA 3050B:1996，采用 ICP-OES/AAS 进行分析。

检测项目	单位	MDL	A8
锑(Sb)	mg/kg	10	ND
铍(Be)	mg/kg	5	ND

卤素

检测方法： 参考 EN 14582:2016，采用 IC 进行分析。

检测项目	单位	MDL	A8
氟 (F)	mg/kg	20	ND
氯 (Cl)	mg/kg	50	ND
溴 (Br)	mg/kg	50	ND
碘 (I)	mg/kg	50	ND

除非另有说明，参照 ILAC-G8:09/2019，使用简单接受（*w*=0）的二元判定规则进行符合性判定。
除非另有说明，此报告结果仅对检测的样品负责。本报告未经本公司书面许可，不可部分复制。
检测报告仅用于客户科研、教学、内部质量控制、产品研发等目的，仅供内部参考。

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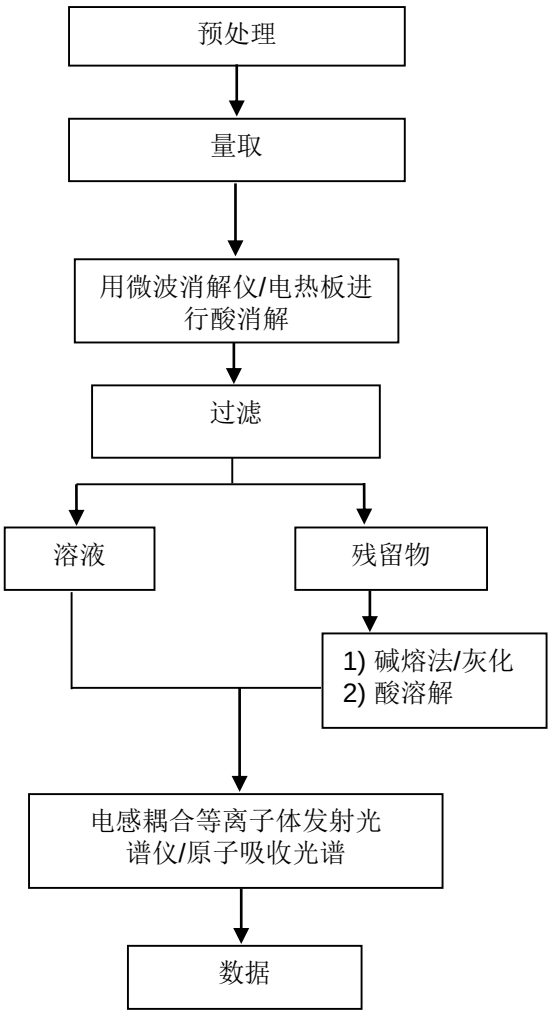
附件

元素检测流程图

样品按照下述流程被完全消解



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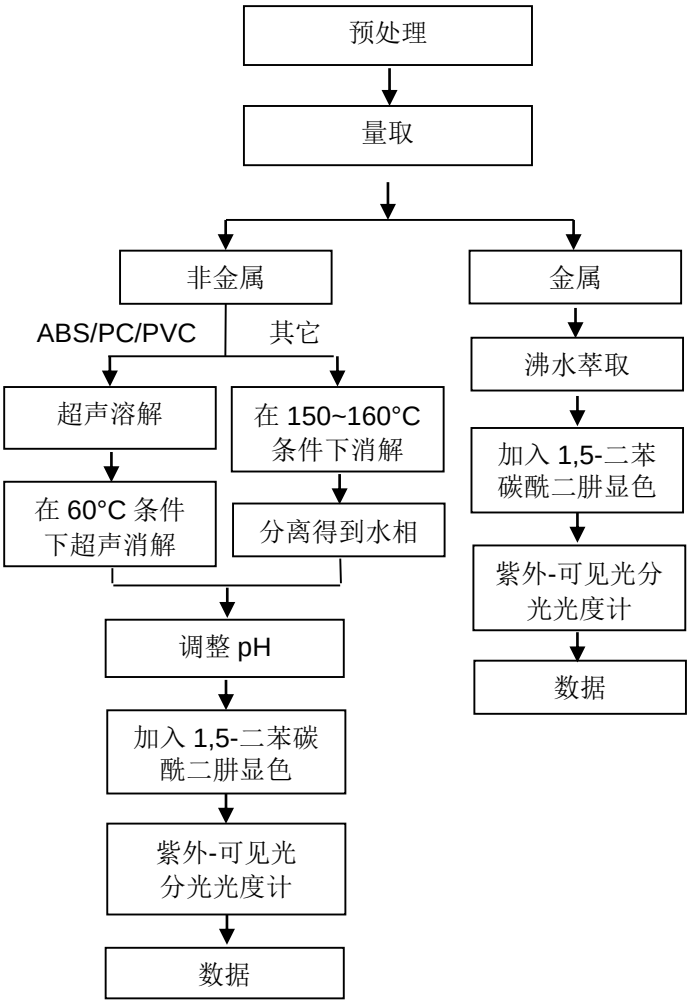
附件

六价铬检测流程图



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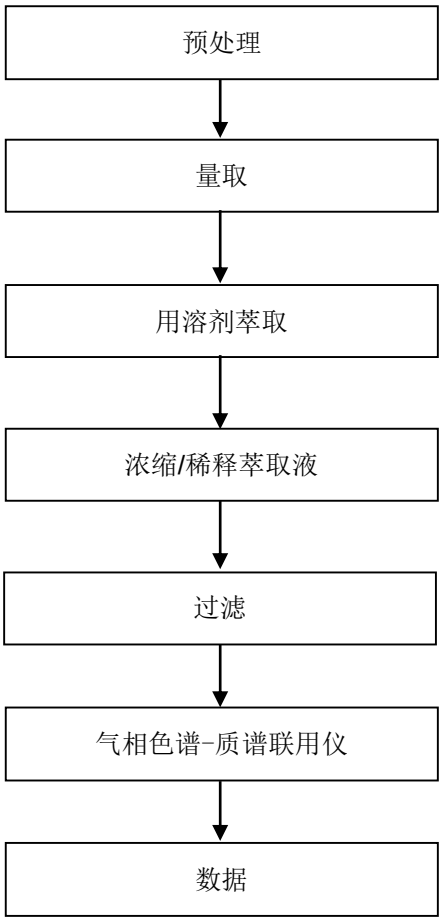
附件

PBBs/PBDEs 检测流程图



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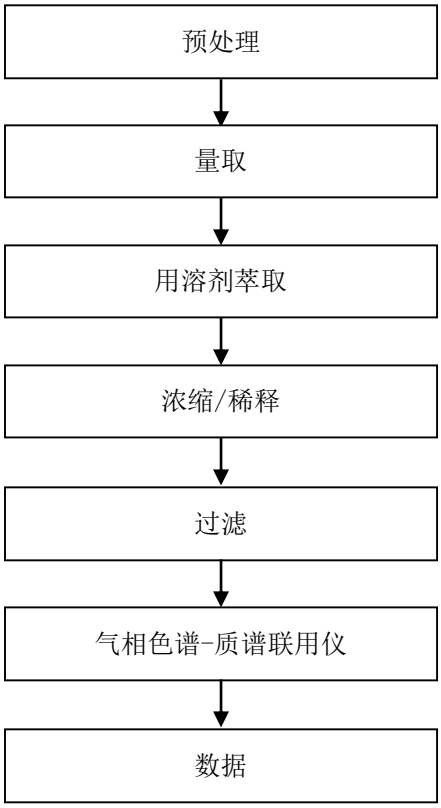
附件

Phthalates 检测流程图



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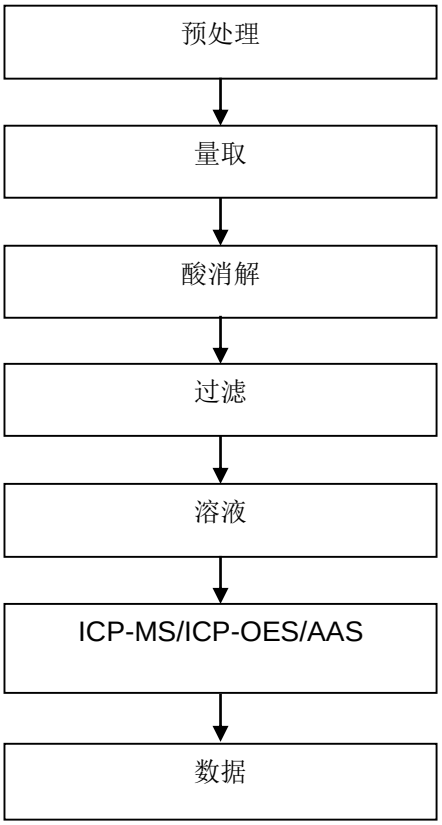
元素检测流程图



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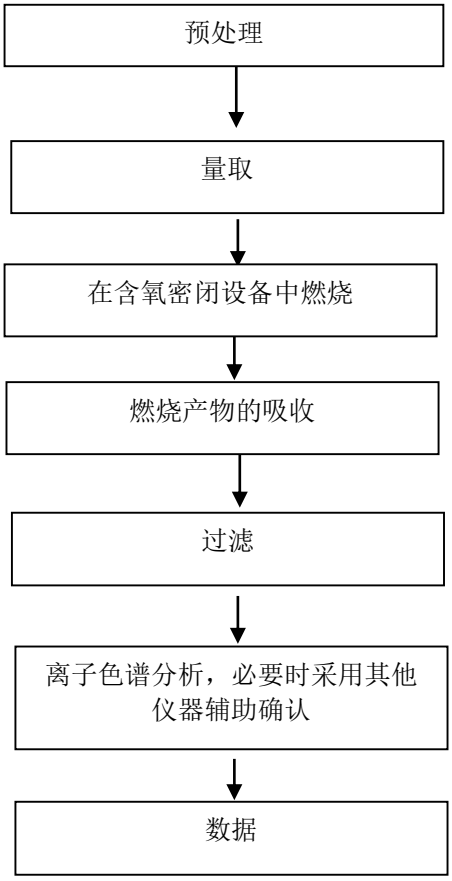
卤素检测流程图



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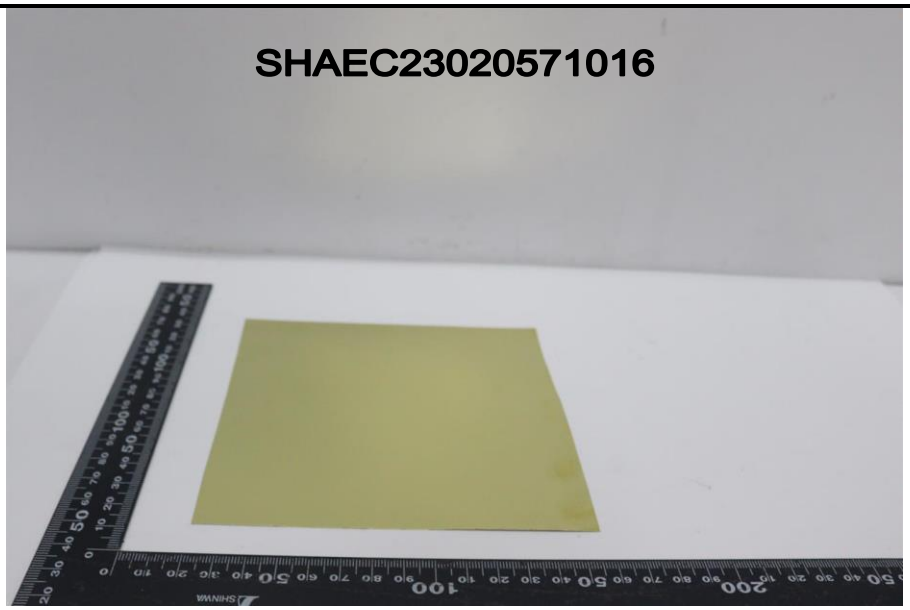

SHA23-0205710-0001.C008

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材料安全数据表(MSDS)

第 1 部分　产品品名与制造商信息
Part 1　Description of Goods and Producer Information

产品名称：　黄铜带
Description of goods: Brass strip

牌　　号：　C2801R、C2740R、C2720R、C2680R、C2600R、C2400R、C28000、C27200、C26800、C26000、C24000、H62、H63、H65、H70、H80。

Type No.: C2801R、C2740R、C2720R、C2680R、C2600R、C2400R、C28000、C27200、C26800、C26000、C24000、H62、H63、H65、H70、H80。

生产商：　安徽鑫科铜业有限公司
Producer: Anhui Xinke Copper Co., Ltd.

电话：0086-553-5313737 , 5313583
Tel:　0086-553-5313737, 5313583

第 2 部分　组成成分
Part 2　Composition

CAS No. 牌 号 Alloy No.	化 学 成 分（%） Chemical Composition					
	Cu	Pb	Fe	Ni	P	Zn
	7440-50-8	7439-92-1	7439-89-6	7440-02-0	7723-14-0	7440-66-6
C2801R、C28000、H62	59.0-62.0	＜0.10	＜0.07	—	—	余量 Rem.
C2740R、C27200、H63	62.0-64.0	＜0.05	＜0.05	—	—	余量 Rem.
C2720R、C27200、H63	62.0-64.0	＜0.07	＜0.07	—	—	余量 Rem.
C2680R、C26800、H65	64.0-68.0	＜0.05	＜0.05	—	—	余量 Rem.
C2600R、C26000、H70	68.5-71.5	＜0.05	＜0.05	—	—	余量 Rem.
C2400R、C24000、H80	78.5-81.5	＜0.05	＜0.05	—	—	余量 Rem.

第 3 部分　危害信息
Part 3　Hazards Identification

吸入金属粉尘:造成呼吸困难。
To inhale the metal powder: can cause headaches and breathing problems.
金属粉末对眼睛危害:损伤视力。
Impact on eyes from the metal powder: Eyesight could be harmed.
对皮肤的影响:划伤。
Impact on skin: Skin could be incised wound.
致癌性:无资料。
Carcinogenic: No information.

第 4 部分 急救措施
Part 4 First Aid Measures
皮肤接触：清除粉尘，用肥皂水清洗。
Skin contaminated: Remove the powder with soap-suds.
眼睛接触：立即翻开上下眼睑，用水清洗。
Eyes contaminated: Turn open eye-lids immediately, and wash them with clean water.
吸入： 转移至空气新鲜处。
Inhaled: Move to the place with fresh air.

第 5 部分 消防措施
Part 5 Fire fighting measures
可燃性：非易燃。
Combustibility: Not combustible.
爆炸性：非易爆。
Explosibility: Not explosive.

第 6 部分 泄露应急处理
Part 6. Accidental Release Measures
产品为固体，无泄漏现象。
The product is solid, no leakage phenomenon.

第 7 部分 操作和储存
Part 7 Handling and Storage
操作：注意被割伤划伤。
Handling: Be careful not to being cut.
包装方法：密封包装(参照《重有色金属加工产品的包装、标志、运输和贮存》（GB8888-88）)。
Package: Hermetic package (Please refer to “Packing, marking, transporting and stocking ways of processed non-ferrous metals” (GB GB8888-88）).
储存：应包装好存放于通风良好、干燥、荫凉之场所。
Storage: Goods should be well wrapped and stored in ventilated, dry and shady places.

第 8 部分 接触控制和个人防护措施
Part 8. Exposure Controls/Personal Protection
空气中铜最高容许浓度：CU：0.1MG/M^3。
Maximum thickness of Cu in the air: CU：0.1MG/M^3 .
监测方法：OSHA PEL 标准。
Detection methods: According to OSHA PEL Standard.
工程控制：加强通风。
Engineering control: Keep the working place ventilated.
呼吸系统防护：超过标准浓度时佩带过滤式防毒面具。
Respiratory organs protection: Must wear screen-style gas mask if the thickness is higher than the safe standard.
眼睛防护：佩戴边部带遮片的防护眼镜。

Eyes protection: Wear protective glasses with protecting side panes.
身体防护：穿戴防护工作服。
Body protection: Wear protective working clothes.
手防护： 佩戴防护手套。
Hands protection: Wear protective working gloves.
其他防护：面罩，特制的彩色眼镜。
Others: Wear protective mask, special color glasses.

第 9 部分 物理和化学特性
Part 9 Physical and chemical properties
外观：黄色金属色泽，不溶于水，无味。
Appearance: Yellowish color with metal luster, non-dissoluble in water, insipid with no smell.
熔点：967-1100 摄氏度。
Melting point: 967-1100℃.
溶解性：不溶于水。
Dis-solubility: Non-dissoluble in water.
密度：8200kg/m^3。
Density: 8200kg/m^3.
主要用途：连接器、端子等。
Usages: Connectors,terminals and etc.

第 10 部分 稳定性和反应活性
Part 10 Stability and reactivity
稳定性：稳定。
Stability: Stable.
禁配物：酸，氧化剂。
Substances prohibited to be with: Acid, oxidizer.
应该避免接触的条件或物质：水，高热，火，化学反应。
Substances or conditions prohibited to touch: Water, high temperature, fire, chemical reaction.

第 11 部分 毒理学信息
Part 11 Toxicological Information
急性毒性：无。
Acute toxicity: No.
亚急性和慢性毒性：无。
Sub-acute toxicity and chronic toxicity: No.
致敏性：金属过敏，皮炎，手足角质化，上呼吸道不适。
Possibility of causing irritability: Irritability against metals, dermatitis, horny-skin of hands and feet skin, feeling uncomfortable in the upper respiratory organs.
致癌性：无。
Possibility of causing cancer: No.

第 12 部分 生态学信息
Part 12. Ecological Information
Apply Europe environment-protection standard: No negative effects on environment.

执行欧洲环境标准: 对环境无不良影响。
Limit of contents of hazardous substances:
有害物质最大限量：

Item No. 序号	Chemical elements 化学成分	CAS No.	limit of contents 最大限量	
1	Pb 铅	7439-92-1	＜80PPM	＜0.008%
2	Cd 镉	7440-43-9	＜5 PPM	＜0.0005%
3	Hg 汞	7439-97-6	＜5 PPM	＜0.0005%
4	Cr6+ 六价铬	18540-29-9	＜100 PPM	＜0.01%

第 13 部分：废弃处置
Part 13 Disposal Considerations
废弃物类别：工业固体废物。
Category of the wastes: Industrial solid wasters.
废弃处置方法：可回收再利用。
Methods of treatment: Can be reclaimed and reused.

第 14 部分 运输信息
Part 14 Transport Information
运输注意事项：防止水分接触，以防腐蚀。
Matters needing attentions in transportation: Avoid water, which can cause corrosion.

第 15 部分 法规信息
Part 15 Regulatory Information
中华人民共和国安全生产法
Production Safety Law of the People's Republic of China
中华人民共和国环境保护法
Environmental Protection Law of the People's Republic of China

第 16 部分 其他信息
Part 16 Other Information
无
NO.



产 品 质 量 证 明 书
CERTIFICATE OF QUALITY

安徽楚江高精铜带有限公司
Anhui Truchum High Precision Copper Strip Co., Ltd.
地址：安徽省芜湖市九华北路8号
邮编：241008　　电话：0553-5316008
No. 8 Jiuhua North Road, Wuhu City, Anhui, China
241008

客户名称（Customer）	东莞鑫创（DGCKC-67）	发货重量（Weight）	
产品名称（Commodity）	H65	生产日期（Date）	2023/1/10
生产批号（Lot NO.）	D23010535	执行标准（Carried Standard）	GB/T2059-2017 GB/T5231-2012

尺 寸 公 差（Size & Tolerance）

规格Specification（mm×mm×mm）	厚度公差Thickness Tolerance(mm)	宽度公差Width Tolerance (mm)	长度公差Length Tolerance(mm)
0.8 × 400 1/2H	-0.02	+0.2	——

化 学 成 份（CHEMICAL COMPOSITION）

元素名称（Element）	铜（Cu）%	磷（P）%	铁（Fe）%	镍（Ni）%	铅（Pb）%	汞（Hg）%	镉（Cd）%	六价铬（Cr6+）%
含量标准（Standard）	64.0~68.0	≤0.010	≤0.07	——	≤0.010	≤0.0020	≤0.0020	≤0.0020
实测值（Value）	64.40	0.0015	0.021	——	0.0077	N.D.	0.0003	0.0002

物 理 性 能（MECHANICAL PROPERTIES）

检测项目(Testing Items)	抗拉强度 Tensile Strength(N/mm^2)	延伸率 Elongation(%)	硬度值 Hardness(HV)	杯突值 Drawability(mm)	晶粒度 Grain Size(mm)
标准（Standard）	355-460	≥25	110-125	——	——
实测值（Value）	392.5	39.3	116.6	——	——

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质量主管：杨世豪
Manager of Quality Assurance Dept.

实验人：卜兴莲　盛金花
Operator of test:Xinglian Bo　JinHua Sheng

质量专用章：
Seal of Quality Assurance Dept.

检测报告
Test Report

报告编号 A2230424549101001E
Report No. A2230424549101001E

报告抬头公司名称	博罗县宏晟电子有限公司
Company Name shown on Report	HONGSHENG ELECTRONIC CO.,LTD
地　　址	惠州市博罗县龙溪镇电镀基地 301 栋
Address	BUILDING 301,1ST FLOOR,LONGXI PLATING BASE,LONGXI TOWN,BOLUO COUNTY.

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

样品名称	雾锡镀层(WSn-001)
Sample Name	Matte Tin Layer(WSn-001)
材料名称	铜材
Material	copper product
样品接收日期	2023.08.21
Sample Received Date	Aug. 21, 2023
样品检测日期	2023.08.21-2023.08.24
Testing Period	Aug. 21, 2023 to Aug. 24, 2023
检测要求	根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)，铍(Be)，全氟辛烷磺酸(PFOS)，全氟辛酸(PFOA)进行测试。
Test Requested	As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Beryllium(Be), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA) in the submitted sample(s).
检测依据/检测结果	请参见下页。
Test Method/Test Result(s)	Please refer to the following page(s).

批　　准　　郑晴涛　　日　　期　　2023.08.24
Approved by　　Date

郑晴涛
技术经理 Technical Manager

No. R393381271

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

检测报告
Test Report

检测依据 Test Method

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	参考 IEC 62321-4:2013+AMD1:2017 CSV Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
铍 Beryllium(Be) #/*	参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
全氟辛烷磺酸 Perfluorooctane Sulfonates(PFOS) *1	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
全氟辛酸 Perfluorooctanoic Acid(PFOA) *1	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

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检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	001	
铅 Lead (Pb)	42 mg/kg	2 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.▼	0.10 μg/cm ²(LOQ)

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

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

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

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	A2230411318101002	
铍 Beryllium (Be) #/*	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	A2230411318101003	
全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS) *1	N.D.	0.5 μg/m²

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	A2230411318101003	
全氟辛酸 Perfluorooctanoic Acid (PFOA) *1	N.D.	0.5 μg/m²

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	银白色镀层 Silvery white plating
2	A2230411318101002	银白色镀层 Silvery white plating
3	A2230411318101003	银白色镀层 Silvery white plating

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备注: **对于检测铅，镉，汞，铍之样品已消解完全。**

-N.D. = 未检出 (小于方法检出限或定量限)

-mg/kg = ppm = 百万分之一

-LOQ = 定量限，六价铬的定量限为 0.10 μg/cm^2

-▼六价铬浓度小于 0.10 μg/cm^2，样品未检出六价铬。

-*=此项目的测试数据引自于报告 A2230411318101002E。

-*[1]=此项目的测试数据引自于报告 A2230411318101003E。

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

-MDL = Method Detection Limit

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

-mg/kg = ppm = parts per million

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2

-▼The sample is negative for Cr(VI) − The Cr(VI) concentration is below 0.10 μg/cm^2. The coating is considered a non-Cr(VI) based coating.

-*=The test result(s) is/are presented in reference to the result(s) that reported in A2230411318101002E.

-*[1]=The test result(s) is/are presented in reference to the result(s) that reported in A2230411318101003E.

注释: -#**表示该项目/方法不在 CNAS 认可范围内。**

-本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。

Note: -#**Indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.**

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

检测报告
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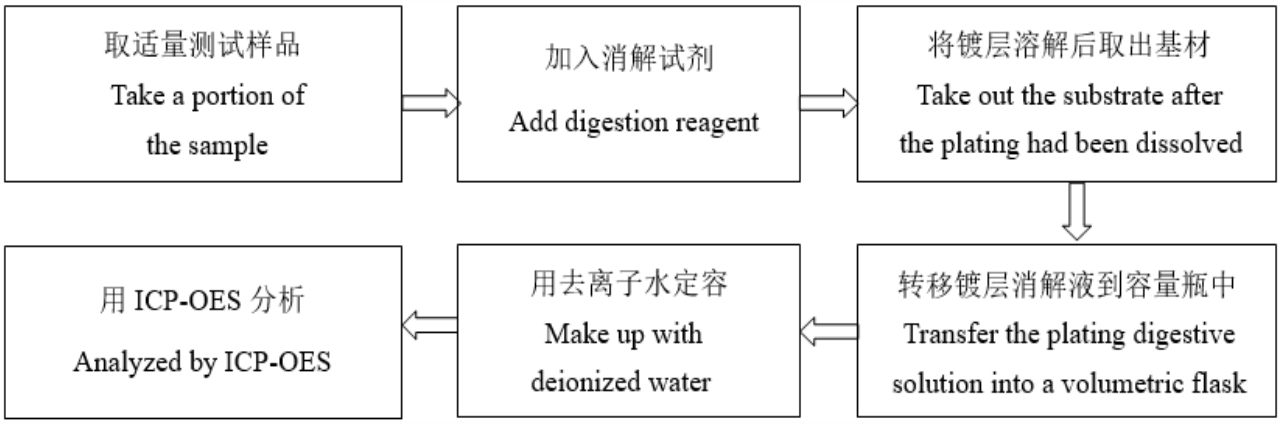
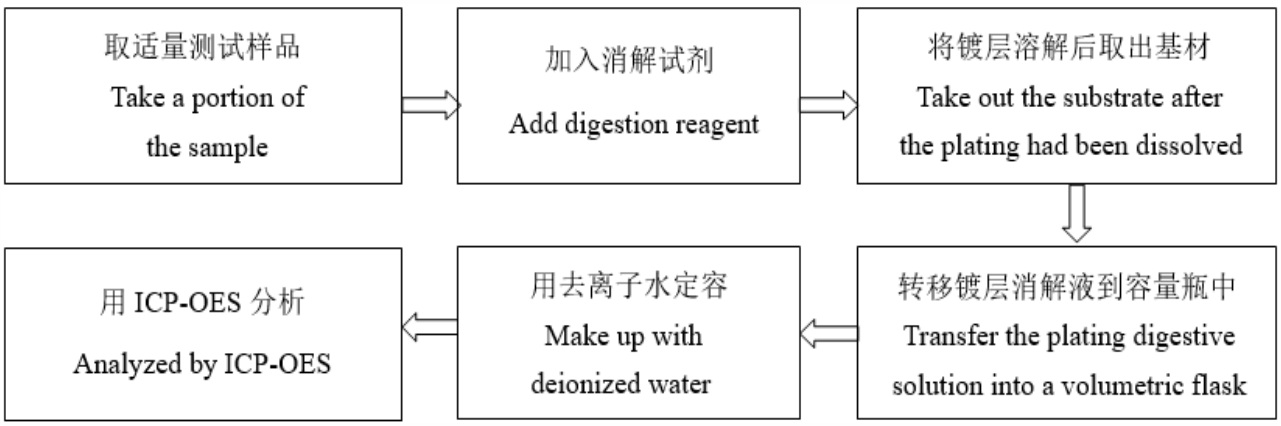
检测流程 Test Process

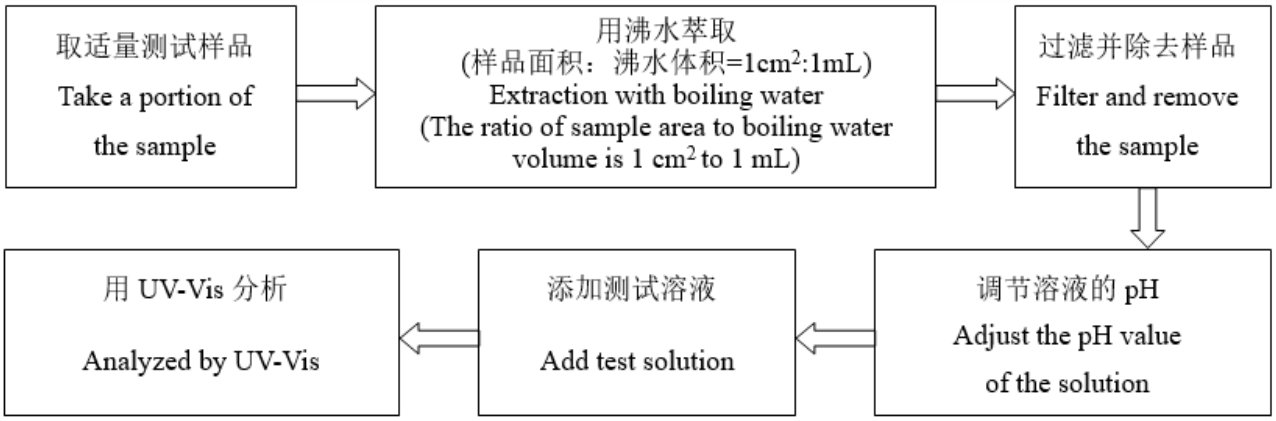
1. 铅 Lead (Pb), 镉 Cadmium (Cd)



2. 汞 Mercury (Hg)



3. 六价铬 Hexavalent Chromium (Cr(VI))



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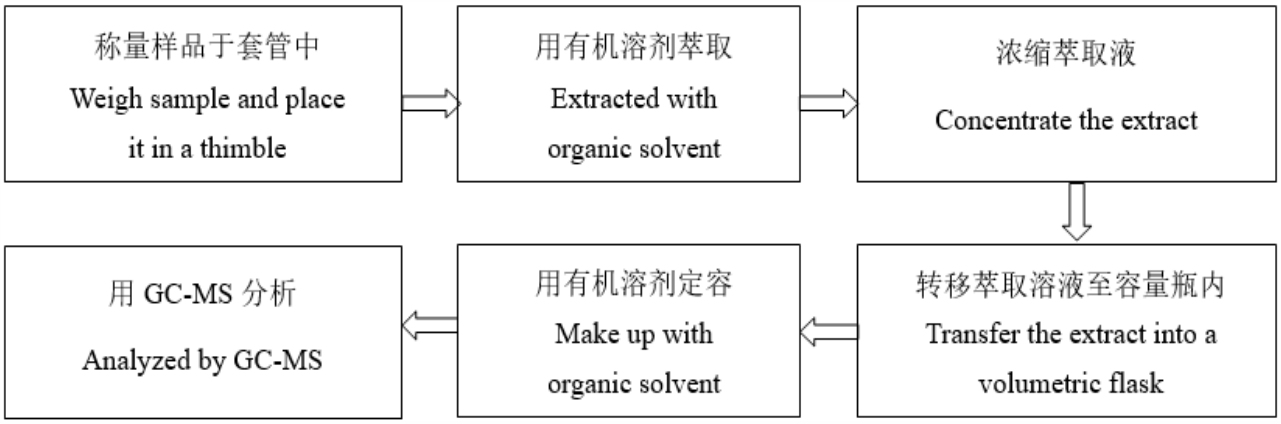
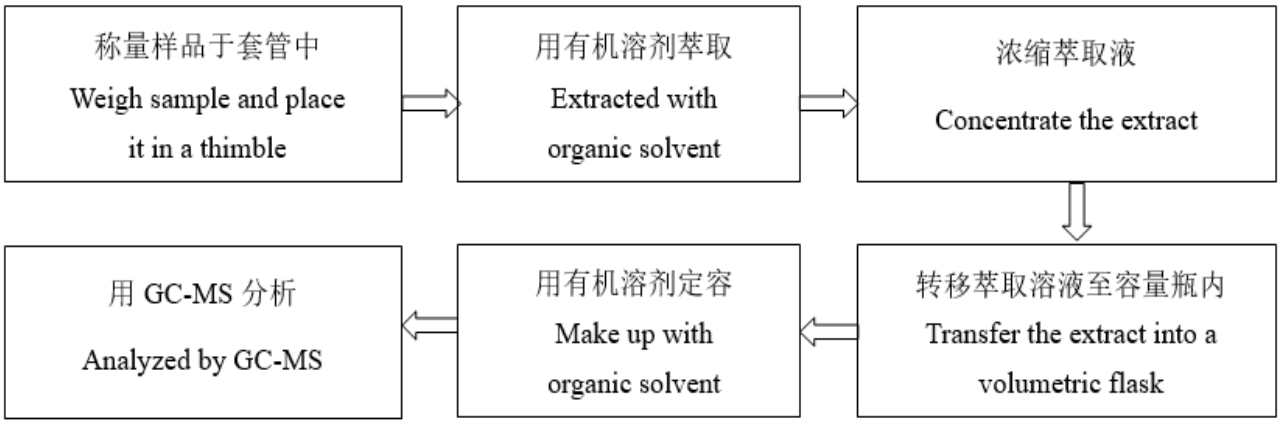
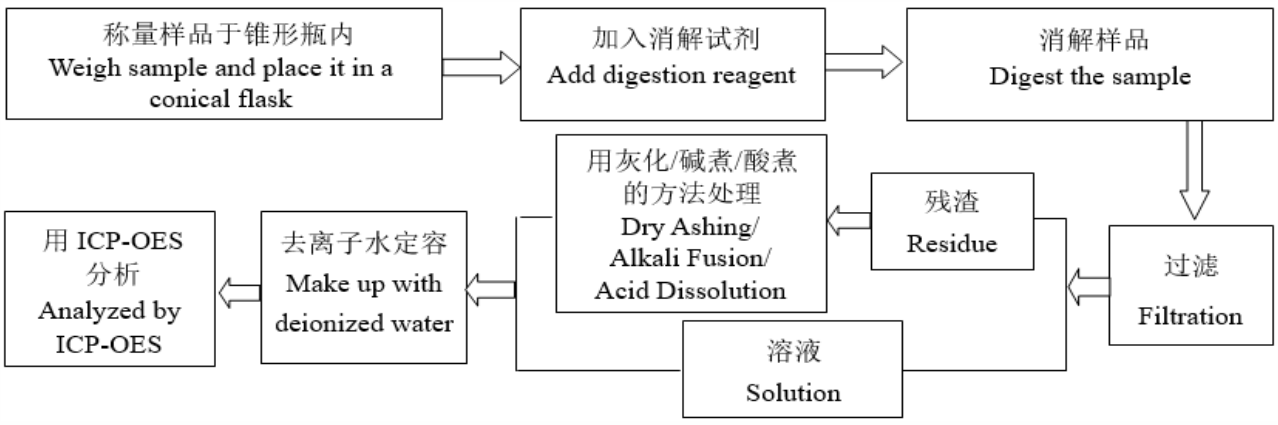
4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



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



6. 铍 Beryllium(Be)



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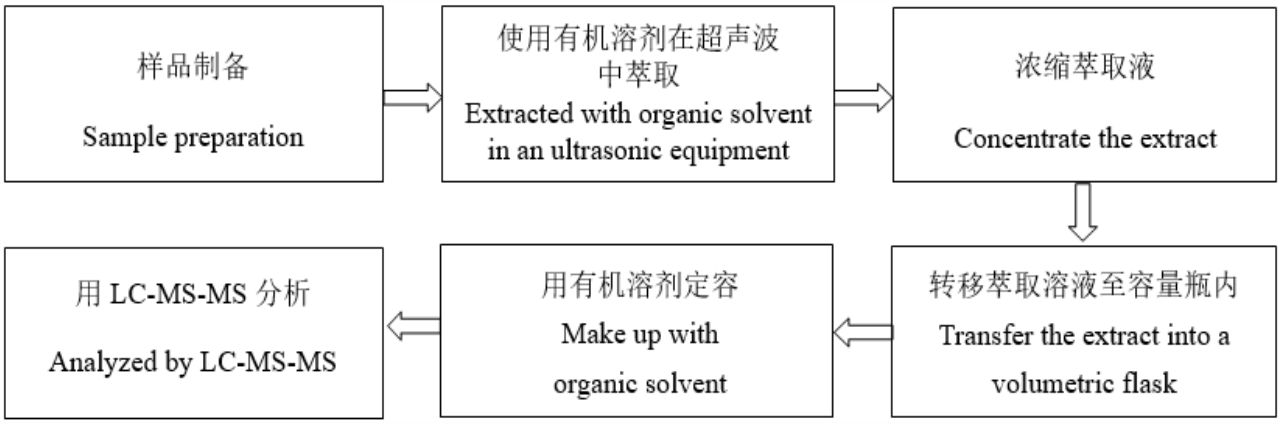
7. 全氟辛烷磺酸(PFOS)Perfluorooctane Sulfonates(PFOS), 全氟辛酸(PFOA)Perfluorooctanoic Acid(PFOA)



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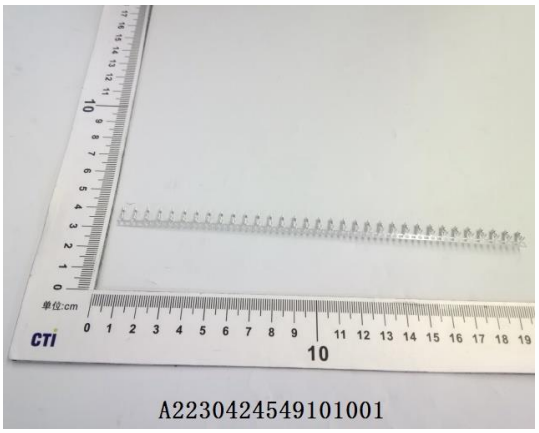
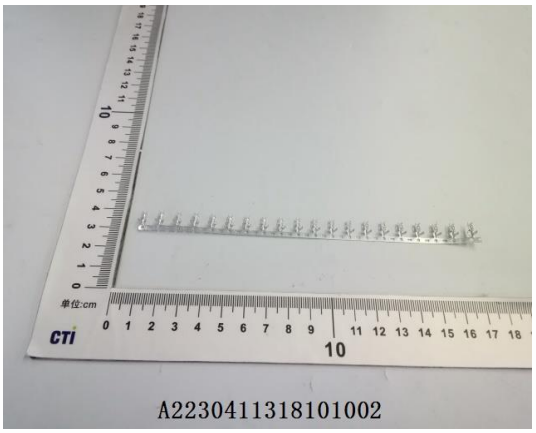
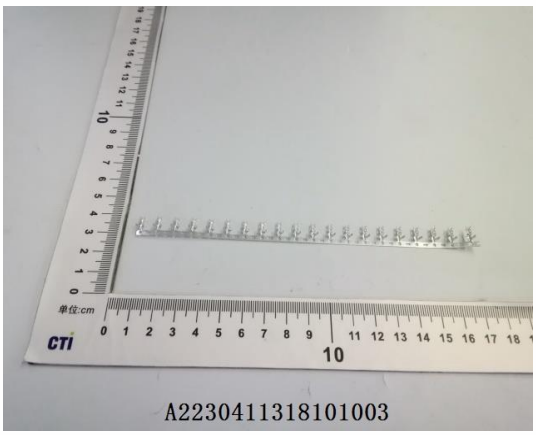
样品图片

Photo(s) of the sample(s)







检测报告
Test Report

声明 Statement：

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

*** 报告结束 ***
*** End of Report ***

物质安全资料表MSDS

一、物品与厂商资料

物品名称：纯锡
制造商或供货商名称：宏晟电子有限公司
制造商或供货商地址：博罗县龙溪镇电镀基地301栋
咨询者姓名及电话：曾小柏 0752-6159398
紧急联络电话：0752-6159398　　传真：0752-6159392

二、成份辨识资料

成份名称	分子式	含量	CAS NO	
锡	Sn	99.9930%	7440-31-5	
铅	Pb	0.0032%	7439-92-1	
砷	As	0.0002%	7440-38-2	
铁	Fe	0.0002%	7439-89-6	
铜	Cu	0.0002%	7440-50-8	
铋	Bi	0.0015%	7440-69-9	
锑	Sb	0.0014%	7440-36-0	
锌	Zn	0.0001%	7440-66-6	
铝	Al	0.0001%	7429-90-5	
镉	Cd	0.0001%	7440-43-9	

三、危害辨藏资料

最重量危害效应	健康危害　急性：食入对人体有影响，金属分尘，对皮肤色刺激性
	效应：红点
	环境影响：已电镀的产品对环境无影响。
	物理性/化学性危害：已电镀的产品对身体和环境无影响。
	特殊危害：无。
主要症状：刺激感、流泪。	
物品危害分类：无	

四、急救措施

不同暴露途径之急救方法：
最重要症状及危害措施：刺激感、流泪。
对急救人员之防护：戴防渗手套，以免接触污染物。
对医师的提示：使环境通风良好，并戴手套，安全口罩。

五、灭火措施

适用减火剂：不可燃烧。
灭火时可能遭遇之特殊危害：
特殊灭火之程序：无
消防人員之特殊防護設備：自带呼装置和全套防火装置。

六、泄漏處理方法

個人應注意事項：电镀时的皮肤、眼、手的防护。
環境注意事項：镀件无环境危害。
清理方法：气体抽风排出，镀液用大量清水冲洗。

七、安全處置與儲存方法

處置：　常温
儲存：　温度20-26度、湿度65%以下，通风良好，无酸碱气体室内。

八、暴露預防措施

工程控制：使用不会产生米火花，接地之通风系统，并与其它通风系统分开。排气口直接通至窗外。3供给充分新鲜空气以补充排气系统抽出的空气。		
控制参數：		
八小時日時量平均容許濃度 TWA	短時間時量平均容許濃度 STEL	最高容許濃度 CEILING
N/a	N/a	N/a

九、物理及化學性質

物質狀態：固体	形状：
	氣味：无气
顏色：不透明	沸點/沸點範圍
密度：	溶解度：不溶于水

十、安定性及反應性

安定性：不变质。
特殊狀況下可能之危害反應：无相关资料
應避免之狀況：避免与酸碱和强氧化剂接触。

應避免之物質：强氧化剂
危害分解物：无相关资料

十一、毒性資料

急毒性：无
局部效應：无
致敏感性：无
慢毒性或長期毒性：无
特殊效應：无

十二、生態資料

可能之環境影響/環境流布：影响农作物生长

十三、廢棄處置方法

廢棄處置方法：回收

十四、運送資料

国际运送规定：
联合国编号：UN000000
国内运送规定：轻拿轻放，避免碰撞挤压、划伤。

十五、法規資料

適用法規：无危险制剂

十六、其他資料

參考文獻		
製表單位元	名称：宏晟电子有限公司	
	地址：博罗县龙溪镇电镀基地301栋	
制表人	职称：工程师	姓名：谢锦周
日期	2022.1.2	

品保专用

检测报告
Test Report

报告编号 A2230424549101002E
Report No. A2230424549101002E

报告抬头公司名称	博罗县宏晟电子有限公司
Company Name shown on Report	HONGSHENG ELECTRONIC CO.,LTD
地　　址	惠州市博罗县龙溪镇电镀基地 301 栋
Address	BUILDING 301,1ST FLOOR,LONGXI PLATING BASE,LONGXI TOWN,BOLUO COUNTY.

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

样品名称	镍镀层（Ni-001）
Sample Name	Plating Ni（Ni-001）
材料名称	铜材
Material	copper product
样品接收日期	2023.08.21
Sample Received Date	Aug. 21, 2023
样品检测日期	2023.08.21-2023.08.24
Testing Period	Aug. 21, 2023 to Aug. 24, 2023
检测要求	根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)，铍(Be)，全氟辛烷磺酸(PFOS)，全氟辛酸(PFOA)进行测试。
Test Requested	As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Beryllium(Be), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA) in the submitted sample(s).
检测依据/检测结果	请参见下页。
Test Method/Test Result(s)	Please refer to the following page(s).

批　　准 郑晴涛　　日　　期 2023.08.24
Approved by　　Date

郑晴涛
技术经理 Technical Manager

No. R393381271

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

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六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
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多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
铍 Beryllium(Be) #/*	参考 US EPA 3050B:1996 & US EPA 6010D:2018 Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
全氟辛烷磺酸 Perfluorooctane Sulfonates(PFOS) *1	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
全氟辛酸 Perfluorooctanoic Acid(PFOA) *1	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

检测报告
Test Report

检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	002	
铅 Lead (Pb)	34 mg/kg	2 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.▼	0.10 μg/cm ²(LOQ)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	002	
多溴联苯 Polybrominated Biphenyls (PBBs)		
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	002	
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)		
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	002	
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)		
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	A2230411318103002	
铍 Beryllium (Be) #/*	N.D.	2 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	A2230411318103003	
全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS) *1	N.D.	0.5 μg/m²

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
	A2230411318103003	
全氟辛酸 Perfluorooctanoic Acid (PFOA) *1	N.D.	0.5 μg/m²

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	002	银色镀层 Silvery plating
2	A2230411318103002	银色镀层 Silvery plating
.	A2230411318103003	银色镀层 Silvery plating

检测报告
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备注: **对于检测铅，镉，汞，铍之样品已消解完全。**

-N.D. = 未检出 (小于方法检出限或定量限)

-mg/kg = ppm = 百万分之一

-LOQ = 定量限，六价铬的定量限为 0.10 μg/cm^2

-▼六价铬浓度小于 0.10 μg/cm^2，样品未检出六价铬。

-*=此项目的测试数据引自于报告 A2230411318103002E。

-*[1]=此项目的测试数据引自于报告 A2230411318103003E。

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

-MDL = Method Detection Limit

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

-mg/kg = ppm = parts per million

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2

-▼The sample is negative for Cr(VI) − The Cr(VI) concentration is below 0.10 μg/cm^2. The coating is considered a non-Cr(VI) based coating.

-*=The test result(s) is/are presented in reference to the result(s) that reported in A2230411318103002E.

-*[1]=The test result(s) is/are presented in reference to the result(s) that reported in A2230411318103003E.

注释: -[#]**表示该项目/方法不在 CNAS 认可范围内。**

-本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。

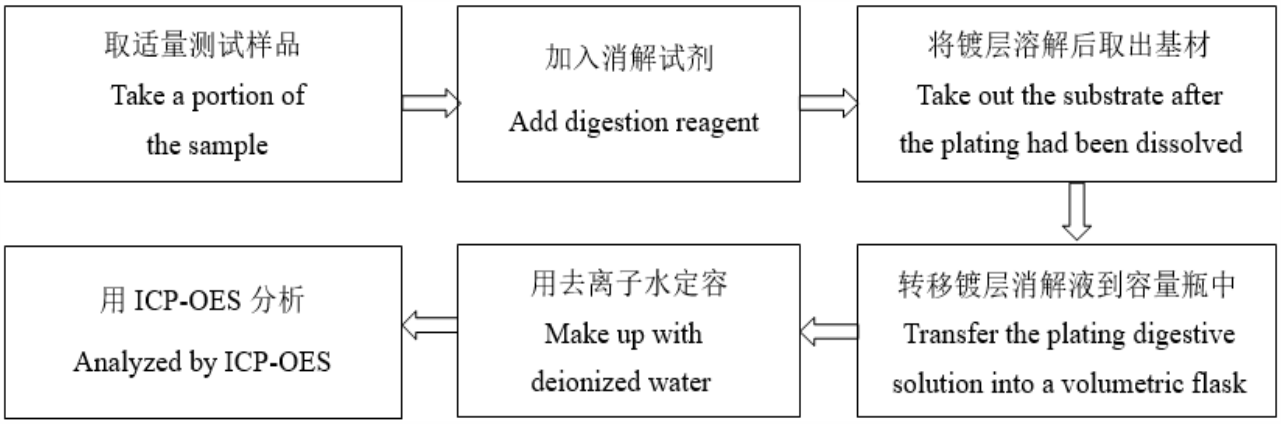
Note: -[#]**Indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.**

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

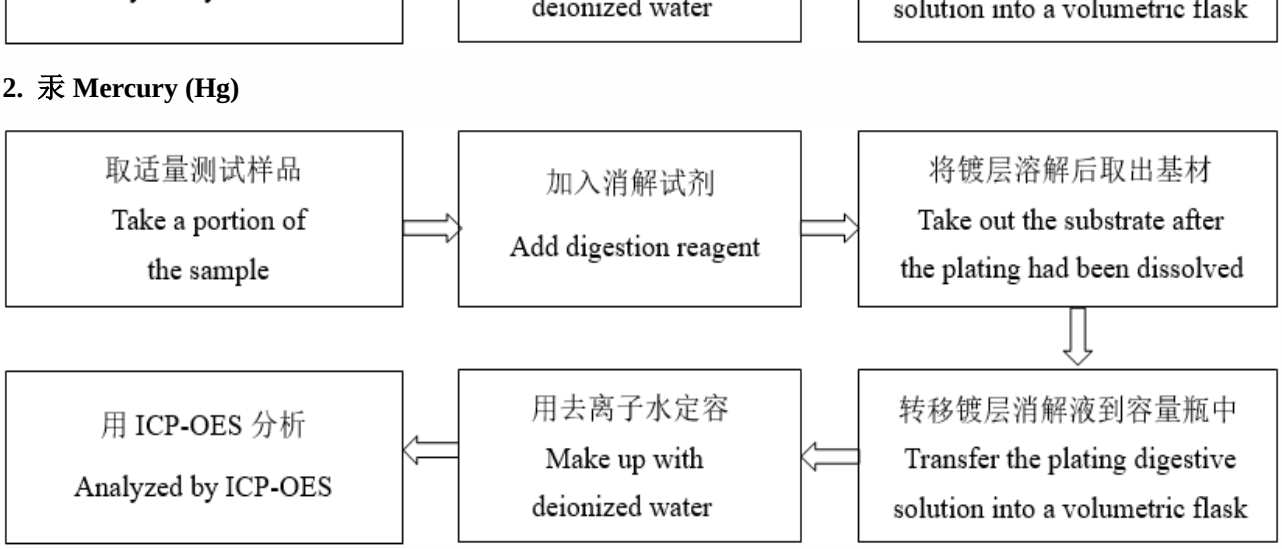
检测报告
Test Report

检测流程 Test Process

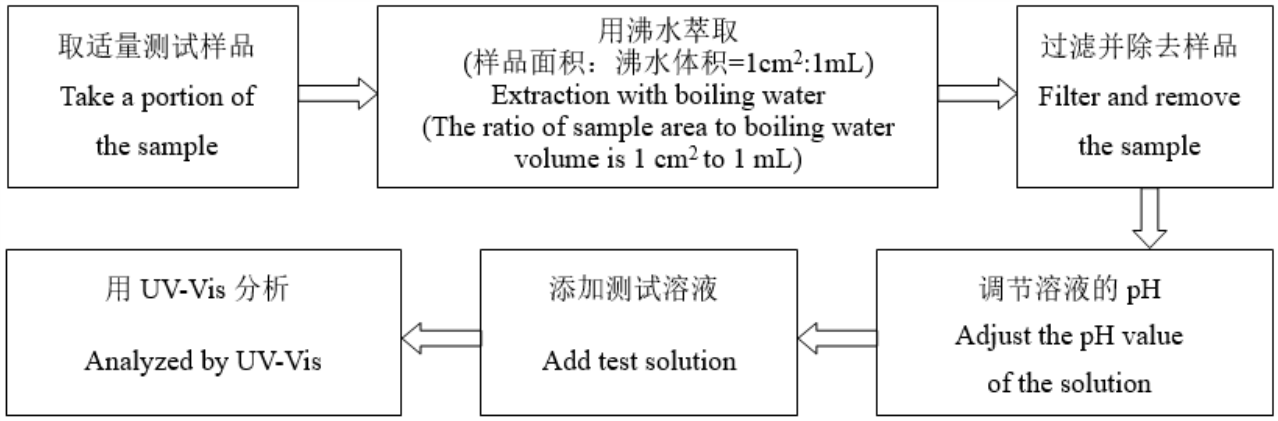
1. 铅 Lead (Pb), 镉 Cadmium (Cd)



2. 汞 Mercury (Hg)



3. 六价铬 Hexavalent Chromium (Cr(VI))



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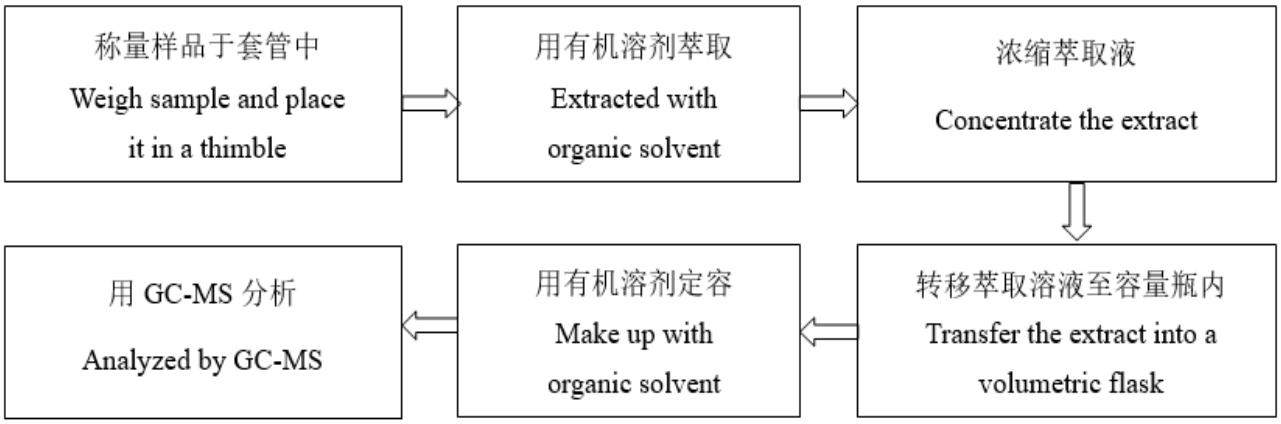
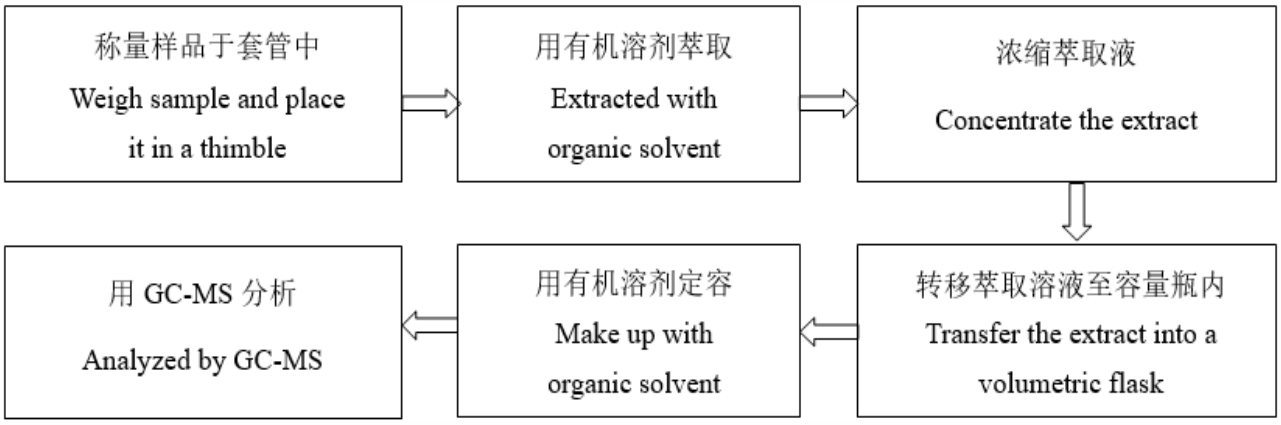
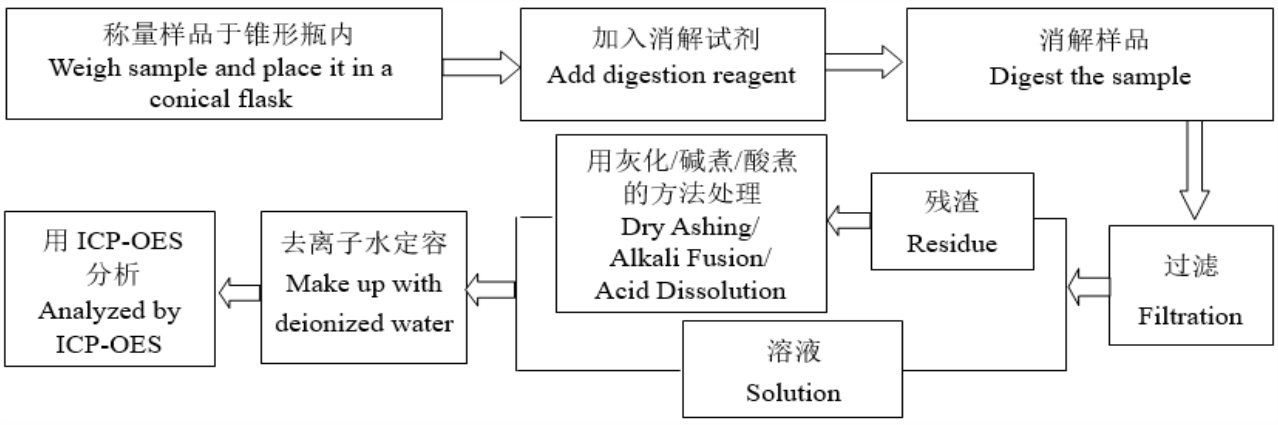
4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



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



6. 铍 Beryllium(Be)



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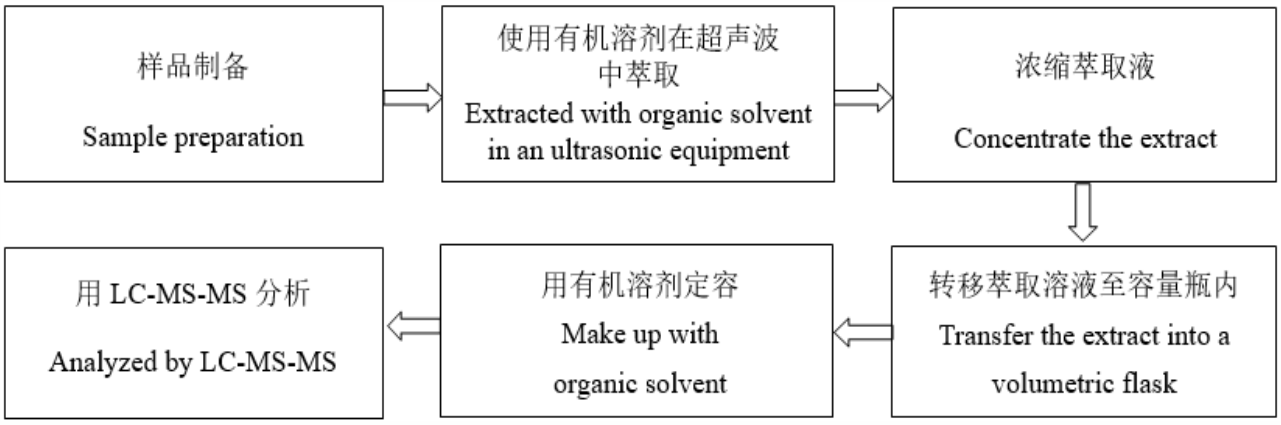
7. 全氟辛烷磺酸(PFOS)Perfluorooctane Sulfonates(PFOS), 全氟辛酸(PFOA)Perfluorooctanoic Acid(PFOA)



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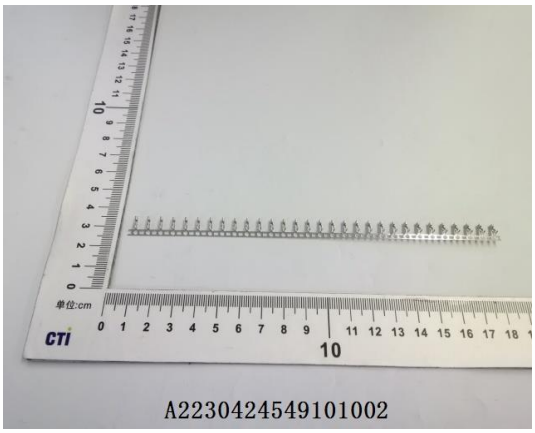
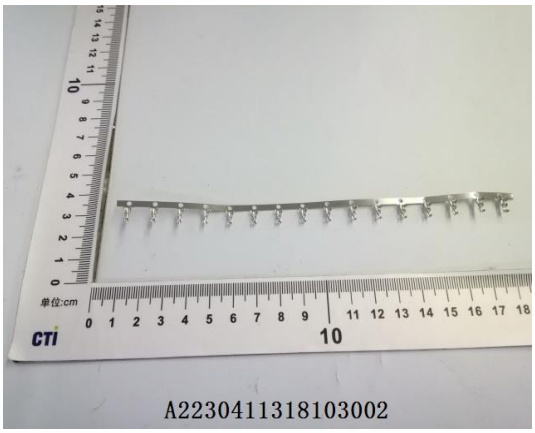
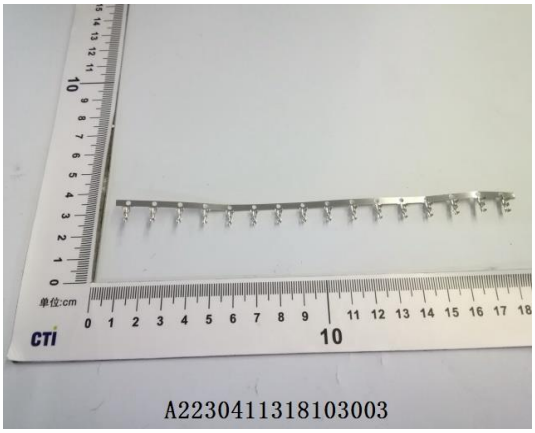
样品图片

Photo(s) of the sample(s)







检测报告
Test Report

声明 Statement：

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

*** 报告结束 ***
*** End of Report ***

物质安全资料表MSDS

一、物品与厂商资料

物品名称：电镀品　纯镍
制造商或供货商名称：宏晟电子有限公司
制造商或供货商地址：博罗县龙溪镇电镀基地301栋
咨询者姓名及电话：曾小柏 0752-6159398
紧急联络电话：0752-6159398　　传真：0752-6159392

二、成份辨识资料

成份名称	分子式	含量	CAS NO	
镍	Ni	99.9900%	7440-02-0	
铅	Pb	0.0004%	7439-92-1	
砷	As	0.0020%	7440-38-2	
铁	Fe	0.0040%	7439-89-6	
铜	Cu	0.0020%	7440-50-8	
锌	Zn	0.0009%	7440-66-6	
铝	Al	0.0006%	7429-90-5	
镉	Cd	0.0001%	7440-43-9	

三、危害辨藏资料

最重量危害效应	健康危害　急性：食入对人体有影响，金属分尘，对皮肤色刺激性
	效应：红点
	环境影响：已电镀的产品对环境无影响。
	物理性/化学性危害：已电镀的产品对身体和环境无影响。
	特殊危害：无。
主要症状：刺激感、流泪。	
物品危害分类：无	

四、急救措施

不同暴露途径之急救方法：
最重要症状及危害措施：刺激感、流泪。
对急救人员之防护：戴防渗手套，以免接触污染物。
对医师的提示：使环境通风良好，并戴手套，安全口罩。

五、灭火措施

适用减火剂：不可燃烧。
灭火时可能遭遇之特殊危害：
特殊灭火之程序：无
消防人員之特殊防護設備：自带呼装置和全套防火装置。

六、泄漏處理方法

個人應注意事項：电镀时的皮肤、眼、手的防护。
環境注意事項：镀件无环境危害。
清理方法：气体抽风排出，镀液用大量清水冲洗。



七、安全處置與儲存方法

處置：　常温
儲存：　温度20-26度、湿度65%以下，通风良好，无酸碱气体室内。

八、暴露預防措施

工程控制：使用不会产生米火花，接地之通风系统，并与其它通风系统分开。排气口直接通至窗外。3供给充分新鲜空气以补充排气系统抽出的空气。		
控制參數：		
八小時日時量平均容許濃度 TWA	短時間時量平均容許濃度 STEL	最高容許濃度 CEILING
N/a	N/a	N/a

九、物理及化學性質

物質狀態： 固体	形状：白色镀层
	氣味：无气
顏色：不透明	沸點/沸點範圍
密度：7.298克/厘米	溶解度：不溶于水

十、安定性及反應性

安定性：不变质。
特殊狀況下可能之危害反應：无相关资料
應避免之狀況：避免与酸碱和强氧化剂接触。
應避免之物質：强氧化剂
危害分解物：无相关资料

十一、毒性資料

急毒性：无
局部效應：无
致敏感性：无
慢毒性或長期毒性：无
特殊效應：无

十二、生態資料

可能之環境影響/環境流布：影响农作物生长

十三、廢棄處置方法

廢棄處置方法：回收

十四、運送資料

国际运送规定：
联合国编号：UN000000
国内运送规定：轻拿轻放，避免碰撞挤压、划伤。

十五、法規資料

適用法規：无危险制剂

十六、其他資料

參考文獻		
製表單位元	名称：宏晟电子有限公司	
	地址：博罗县龙溪镇电镀基地301栋	
制表人	职称：工程师	姓名：谢锦周
日期	2023.3.14	

興竣豪科技(深圳)有限公司

產品貯存規範書

1. **目的**:

為使客戶能知悉我司所生產的成品的貯存條件,從而確保產品的品質發生變質,特製訂此規範書。

2. **範圍**:竣豪生產的所有成品。

3. **權責**:竣豪品管部主辦,相關部門協辦。

4. **內容重點**:

4.1 產品組件

4.1.1 五金類. (PIN針 端子)

4.1.2 塑膠件 (NY-6T. NY-9T. NY-46. NY-66. LCP. PBT. PPS. PC. ABS. HTN)

4.2貯存環境

4.2.1溫度控制在20℃-25℃之間.

4.2.2相對濕度控制在60%以下

4.2.3空气乾淨,無酸,鹼,鹽等腐蝕性介質離子

4.3防護措施

4.3.1 密封包裝確保鍍層表面無氧化及發黑發白現象.

4.3.2 在產品上線時.當日使用不完之產品需按原包裝方式包裝.且貯存環境參照4.2.餘料并建議10日內使用完畢.

4.4建議上線環境溫度.

4.4.1 因塑膠特性關系.吸收水份較快.所以貯存環境條件非常重要.

4.4.2 產品上線時請保持常溫25℃以下.時間控制在8小時以內.

在以上條件基礎上,產品自竣豪交貨日算起,貯存期為鍍金,鍍銀產品為半年,鍍錫產品(包裝袋內加放干燥劑)為三個月,在此貯存期限內若品質發生劣化.由竣豪負責處理.如未在此貯存條件下或超過貯存時間,產品發生變異,敬請客戶自行負責.如有不便,望諒解!

衷心感謝尊敬的客戶能予以配合!

核準: **審核**: **制定**: 張紅蘭

管理体系认证
注册证书

兹证明，以下组织：

兴竣豪科技（深圳）有限公司

中国广东省深圳市龙华区福城街道福民社区悦兴路63号鹏发第一工业园2号 201、301

的管理体系，符合以下标准要求并予以注册：

ISO 9001:2015

此管理体系适用于：

电子连接部件（排针、排座、板对线，板对板）的生产

统一社会信用代码：
91440300570005153X

证书编号：
111307048

首次认证日期：
2013年09月03日

认证决定日期：
2022年08月26日

签发日期：
2022年08月26日

有效期至：
2025年09月02日

Calin Moldovean
President, Business Assurance

Intertek Certification Limited, 10A Victory Park, Victory Road, Derby DE24 8ZF, United Kingdom

Intertek Certification Limited
是 UKAS 认可的认证机构，
注册号为 014

对于此证书的签署，Intertek仅对获证组织承担认证协议所规定的义务，而不对其他组织承担任何义务。此证书的有效性基于获证组织能够依照Intertek的体系认证要求使其体系得到保持。可通过电子邮件certificate.validation@intertek.com或用智能手机扫描该代码对证书有效性进行确认。此证书的所有权归属为Intertek，在必要时证书持有者应按要求归还证书。
获证组织必须定期接受监督审核并经审核合格方可保持证书年度有效。证书信息可在国家认监委官网http://www.cnca.gov.cn查询。

intertek
Total Quality. Assured.

CERTIFICATE OF REGISTRATION

This is to certify that the management system of:

Superior Tech (Shenzhen) Co., Ltd.

201、301, No. 2, Pengfa First Industrial Park, No. 63, Yuexing Road, Fumin Community, Fucheng, Longhua District, Shenzhen, Guangdong Province, P. R. China

has been registered by Intertek as conforming to the requirements of:

ISO 9001:2015

The management system is applicable to:

Manufacture of Electronic Connection Unit (Pin Headers, Female Headers, Wire to Board， Board to Board)

Unified Social Credit Identifier:
91440300570005153X

Certificate Number:
111307048

Initial Certification Date:
03 September 2013

Date of Certification Decision:
26 August 2022

Issuing Date:
26 August 2022

Valid Until:
02 September 2025

ISO 9001:2015 CERTIFICATION intertek™

UKAS MANAGEMENT SYSTEMS 014

Calin Moldovean
President, Business Assurance

Intertek Certification Limited, 10A Victory Park, Victory Road, Derby DE24 8ZF, United Kingdom

Intertek Certification Limited is a UKAS accredited body under schedule of accreditation no. 014.

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The annual validity of the certificate can also be checked through the website http://www.cnca.gov.cn of CNCA in China.