SUPERIOR TECH CO., LTD.

承 認 書

CUSTOMER APPROVAL SHEET

Customer:	鈺緯科技股份有限公司
Description:	Box Header PH2.0 90 度 DIP
Customer's P/N:	3FM01917810
Superior's P/N:	BHUD-RC020S1LONB-N005
Date:	2024/08/29
Document No:	AVL-408-0002

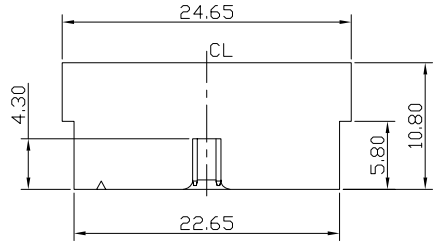
出 圖 DRAWING		
發行 MADE	檢查 CHECKED	承認 APPROVED
Jacky	Tom	Tom
日期 DATE:2024.08.29		

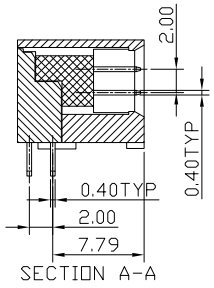
承 認 印 CUSTOMER APPROVE
日期 DATE:

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

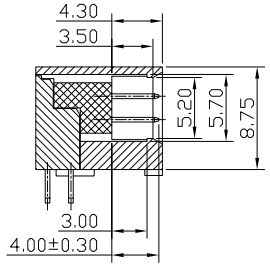
(Q2-R01-11A)

REV.	DESCRIPTION	DATE
A	New Drawing	2024/08/12





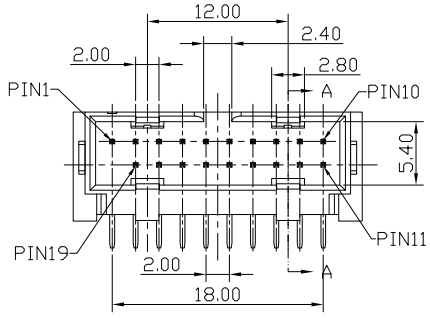
SECTION A-A

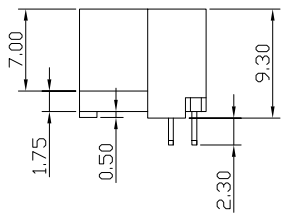


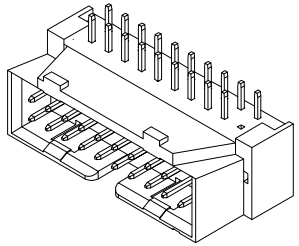
SECTION A-A

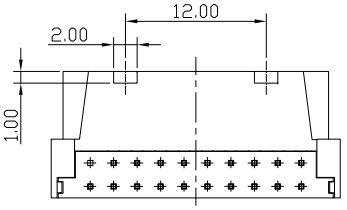
NOTES:
1.MATERIAL SPECIFICATION:
1-1.HOUSING: PA6T,UL94-V0
1-2.CONTACTS: BRASS
2.PLATING SPECIFICATION:
2-1.NI 50u"MIN. UNDER PLATED OVER ALL.
2-2.Au PLATING ON CONTACT AREA.
2-3.TIN 100u"MIN PLATING ON CONTACT SOLDER
3.MECHANICAL PERFORMANCE:
3-1.INSERTION FORCE: 35N MAX.
3-2.REMOVAL FORCE: 15N MIN.
4.ELECTRICAL PERFORMANCE:
4-1.CURRENT RATING: 1A/PIN MIN EXCEPT THAT VBUS PIN IS 1.5A
4-2.LLCR: INITIAL 30mΩ OF A MATED CONNECTOR LLCR MAX. CHANGE OF ALL PINS 20mΩ IMPEDANCE: 78~105Ω DURING 50PS WITH TDR.
4-3.INSULATION RESISTANCE: 100MΩ MIN.
4-4.DIELECRIC WITHSTAND VOLTAGE: AC 500V FOR 1 MINUTE.
5.ENVIRONMENT COMPLIANT& COLOR REFER TO TABLE.
6:Operating temperature:-20 °C+85 °C

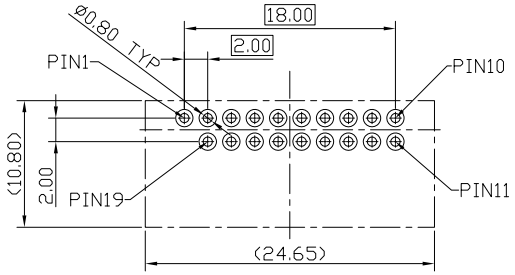
Solderability
Soldering time: 4-5 second (Use flux)
Solder Temperature: 245±5°C











RECOMMENDED PCB LAYOUT
PCB THICKNESS IS 1.60mm
DEFAULT TOLERANCE ±0.05

BHUD-RC020S1LONB-N005

- PCB Contact Type: R Right
- C One Locking Window
- Number of Contact: 20 contacts
- Contact Plating: S1 Selective G/F-Tin
- Base Color: L Blue
- O Without locating Peg
- Plastic: N NY-6T
- Packing: B Tray
- Series No

竣豪電子股份有限公司 Superior Tech Co., Ltd.	General Tolerance	TITLE	BOX HEAFER PH2.0 R/A DIP,空第20Pin
	X. ± 0.5	DRAWN Jacky	DATE 08-12-24' / NO. T288
	.X ± 0.3	CHECK Tom	DATE 08-12-24' / PART NO. BHUD-RC020S1LONB-N005
	.XX ± 0.2	APPROVED Tom	DATE 08-12-24' / CUSTOMER NO.
	.XXX ± 0.1		
	角度 ± 5°		
REV. A / UNIT mm / SCALE 2:1			

SPECIFICATION AND PERFORMANCE
TALBE OF CONTENT

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Rev	Date	Description	Edited by	Approvals
A	2011/11/15	Issue	Dengxuihui	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 **Box Header P2.00 connector**

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 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:	125Vrms maximum
B. Current:	1A
C. Temperature:	-20~85℃

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 ST 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.	1000MΩ 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.	1. 600gf / per pin min . 2. No movement from normal position.
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 100 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 Not the withstanding temperature of plastics	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.

Test Description	Test Procedures & Condition	Requirements
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: 16 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 : 105±2℃ Duration: 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. Specified.

Test Description	Test Procedures & Condition	Requirements
Resistance to Soldering Heat	EIA 364-56 Procedure 3 Test Condition C (Dip type) The test is performed for the purpose of determining whether connectors can withstand the effects of the heating and/or environment to which they will be subjected during the soldering of their terminations by solder dip, soldering iron, solder wave, or reflow soldering techniques. The heat and/or environment of soldering may affect the electrical characteristics of the connector and may cause damage to the materials making up the connector.It may also result in loosening of terminations, softening or distortion of insulation materials, opening of solder seals, weakening of mechanical joints, etc. Subject unmated connectors should be tested according to the condition listed below: Temperature: 260±5℃ Immersion Duration:10±2 seconds Immersion and emersion rate: 25.4mm± 6.35 per second	1. No evidence of damage. 2.The electrical performances should meet the spec. specified. 3.The mechanical performances should meet the spec. specified.
	EIA 364-56 Procedure 5 Level I (SMD Type) Subject unmated connectors should be tested according to the condition listed below : Peak Temperature : 250±5℃ Over 200℃ duration : 30~35 seconds .	

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 Requalification 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		
Solder ability						5		
Humidity				4				
Salt Spray					5			
Temperature Life			3					2
Resistance to Soldering Heat							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 , ST 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 ST 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 .

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 .

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 ST 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 ST 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

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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.

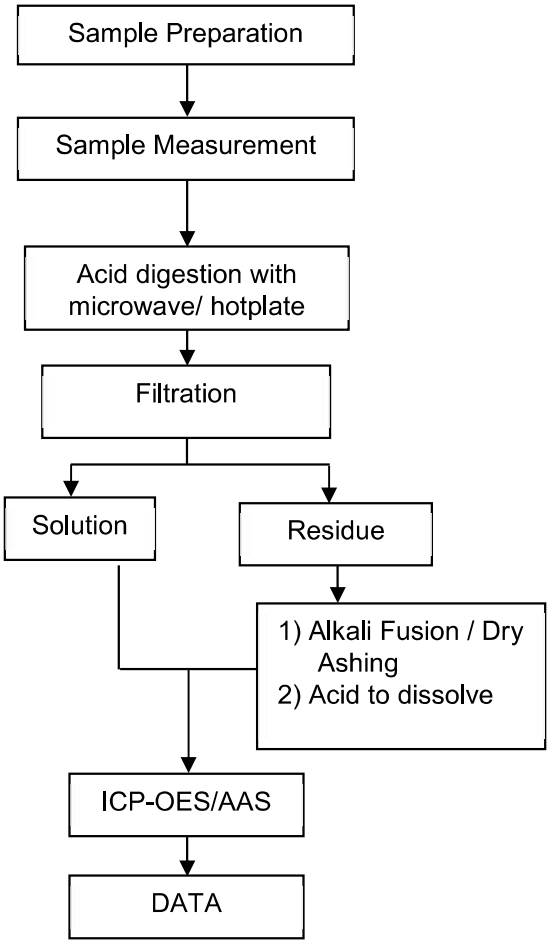
Remark:
*The reported result is for reference only.
Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (*w*=0) stated in ILAC-G8:09/2019.

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Elements Testing Flow Chart

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



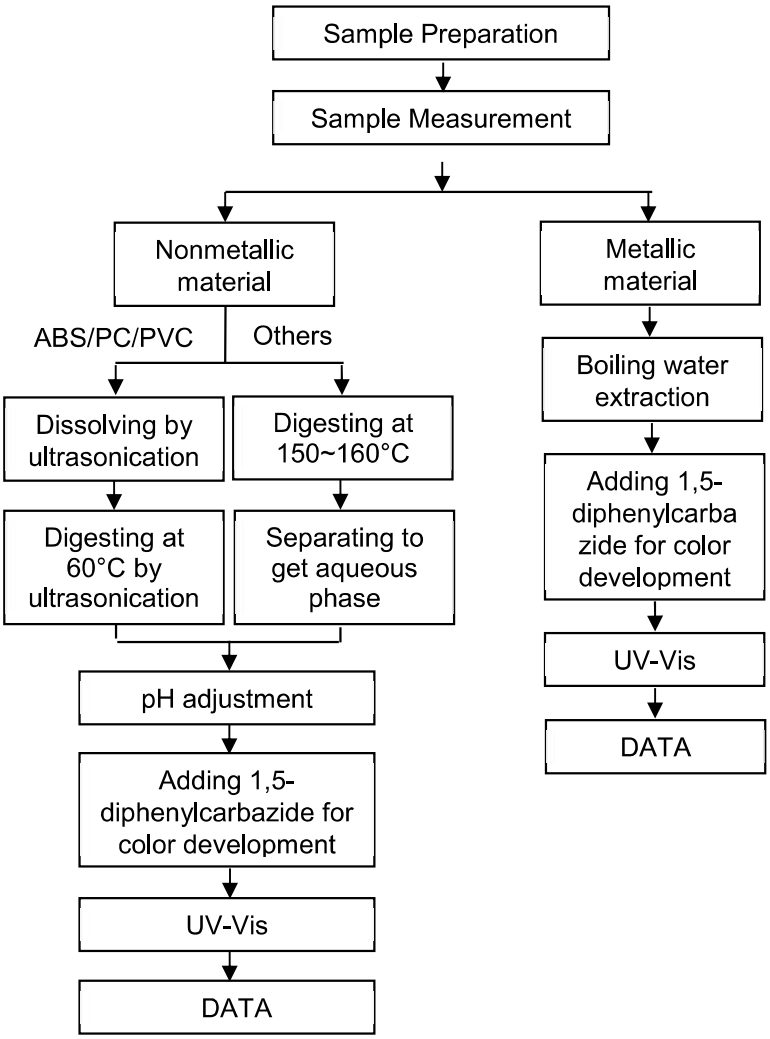
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Hexavalent Chromium (Cr(VI)) Testing Flow Chart

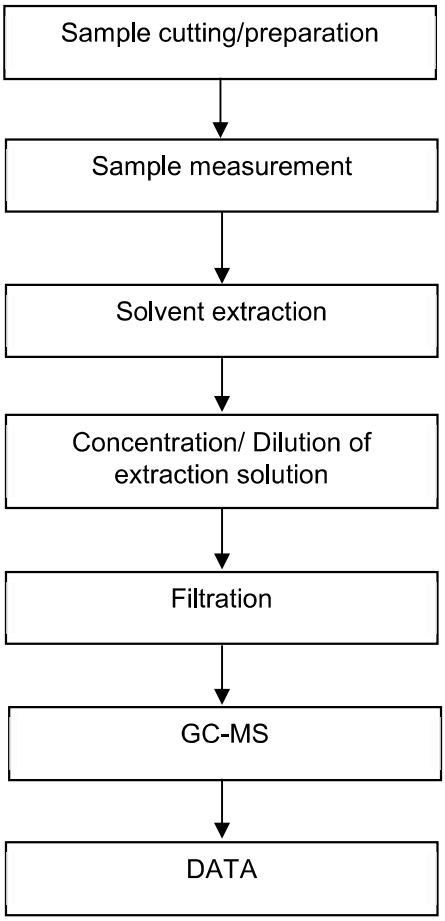


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PBBs/PBDEs Testing Flow Chart



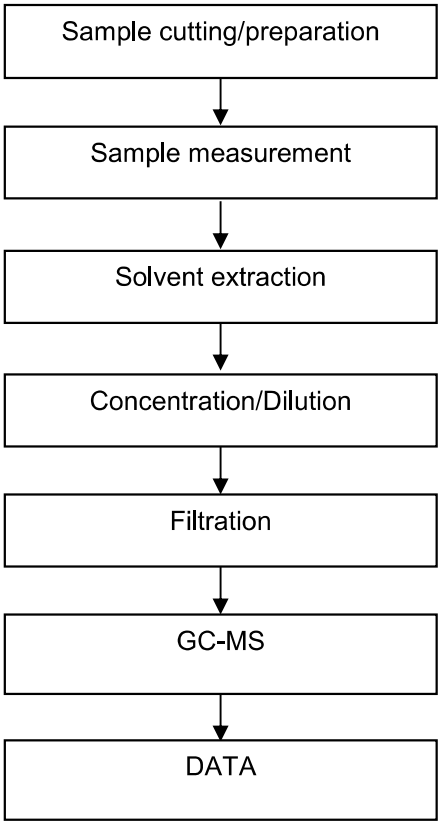
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Phthalates Testing Flow Chart



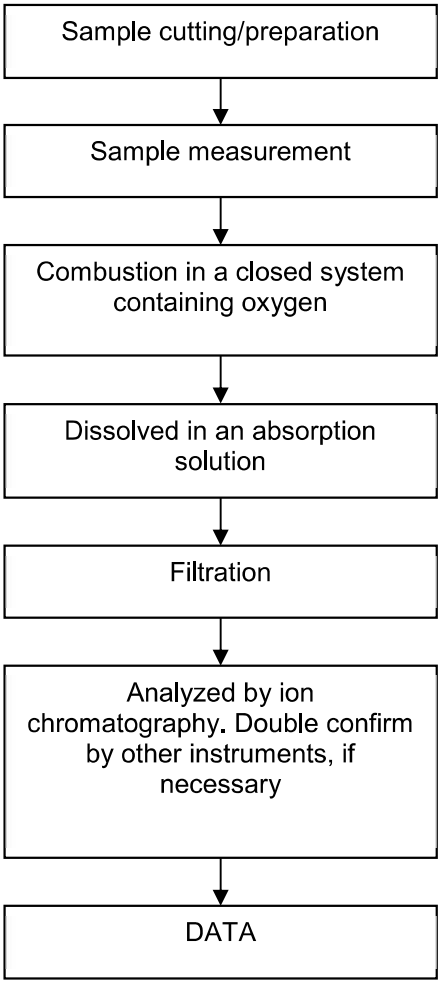
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Halogen Testing Flow Chart

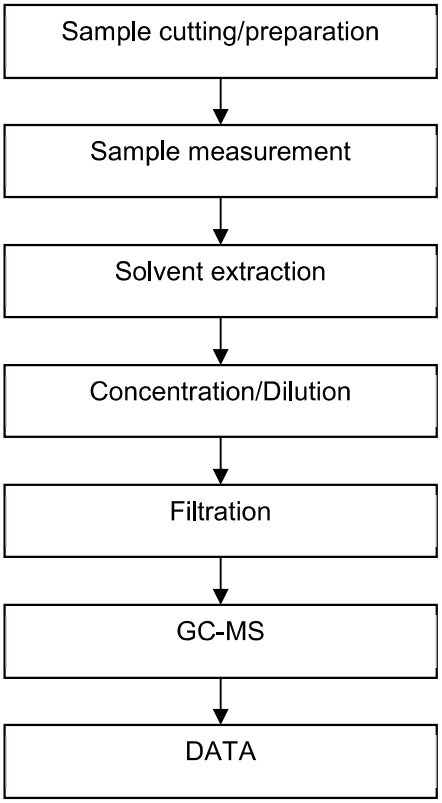


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HBCDD Testing Flow Chart



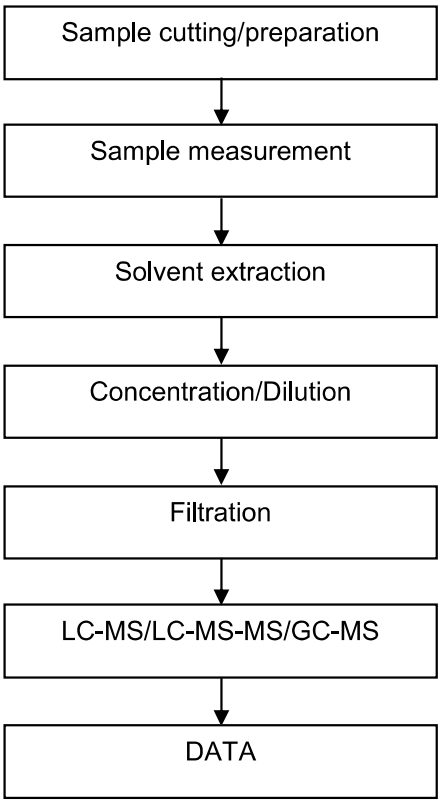
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PFASs/ PFOS/PFOA Testing Flow Chart

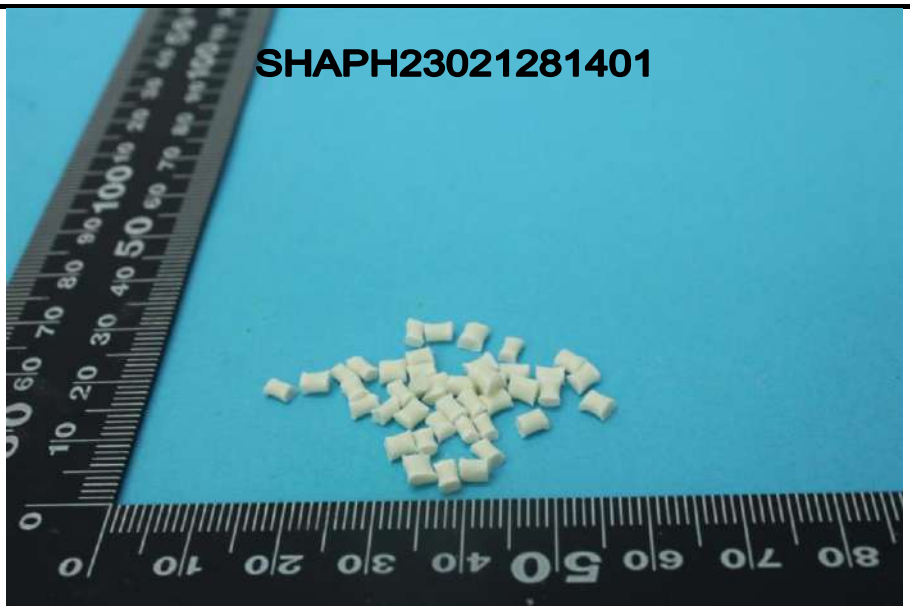


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Sample Photo:



SHA23-0212814-0001.C001

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MATERIAL SAFETY DATA SHEET

Date January 6, 2021

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **ARLEN E630N-CHINA**

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	: Classification not possible.
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 nod 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 the throat 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.
Compound 1 *	35- 45	25776-72-1
Glass fiber	25—35	65997- 17-3
Bromine compound	15—25	88497-56-7
Antimony compound	1.8 - 5.8	15432-85-6
Others	<5	-

* Polycondensation product of Hexamethylenediamine and Terephthalic acid as main components.

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:
Nitrogen oxides, hydrogen bromide, antimony oxides, carbon oxides.

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 :
< Glass fiber >
ACGIH-TLV: 1 fibers/cm^3(TWA)
5 mg/m^3(TWA) Inhalation fraction
OSHA-PEL : Not established.

< Carbon black >
ACGIH-TLV: 3 mg/m^3(TWA) Inhalable fraction

OSHA-PEL : 3.5 mg/m^3(TWA)

< 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	: Black Pellet.
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.
KINEMATIC VISCOSITY	: Not available.

10. STABILITY AND REACTIVITY

STABILITY : Stable for normal storage and handling.
HAZARDOUS REACTIONS: Not available.
CONDITIONS TO AVOID: Heat, air, sunlight, moisture.
MATERIALS TO AVOID : Not available.
HAZARDOUS DECOMPOSITION PRODUCTS :
Nitrogen oxides, hydrogen bromide, antimony oxides, carbon oxides.

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:
Not available. [Classification not possible]

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 and CARBON BLACK, 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 by IARC.

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

< Bromine compound >
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]

As for ANTIMONY COMPOUND and CARBON BLACK, 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: See Appendix.

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	Inventory Status
E630N-CHINA	Light-yellow pellet	320 °C	TSCA, EINECS, DSL, IECSC, ENCS,KECI, NZIoC

QMFZ2.E52579
Plastics - Component

Additional information regarding this certification can be found in UL's iQ Family of Databases (iq.ul.com).

NEW -- for additional information concerning the individual material, click on the material designation.

Page Bottom

Plastics - Component

See General Information for Plastics - Component

MITSUI CHEMICALS INC

SHIODOME CITY CENTER, #1-5-2

HIGASHI-SHINBASHI, MINATO-KU

TOKYO, 105-7117 JAPAN

E52579

									H	D	
		Min.		H	H	R T I			V	4	C
		Thk	Flame	W	A	Elec	Mech		T	9	T
Material Dsg	Color	mm	Class	I	I		Imp	Str	R	5	I
Cycloolefin Copolymer, "APEL", furnished as pellets.											
APL5514ML	NC	1.5	HB	-	-	50	50	50			
		3	HB	-	-	50	50	50			
Ethylene/Tetracyclo Dodecene (E/TCD), "APEL", furnished as pellets.											
APL5014DP	NC	1.5	HB	-	-	50	50	50			
APL5014DQ	NC	1.5	HB	-	-	50	50	50			
PE/PA ALLOY, furnished as pellets.											
LS4140	NC	0.88	HB	-	-	50	50	50			
Polyamide (PA), glass reinforced, "ARLEN", furnished as pellets.											
C240NK(f1)	ALL	0.75	V-0	0	0	65	65	65	1	6	1
		1.5	V-0	0	0	120	105	115			
		3	V-0	0	0	120	115	125			
C645NK(r1)	NC	0.75	V-0	-	-	65	65	65			
CH245NK(r1)	NC	0.75	V-0	-	-	65	65	65			
Polyamide (PA), "ARLEN", furnished as pellets.											
E430N(#)(r3)	ALL	0.8	V-0	-	-	110	115	120			1
E435N(#)	ALL	0.8	V-0	-	-	110	115	120			
E440N(#)	ALL	0.8	V-0	-	-	110	115	120			
Polyamide (PA), "Arlen", furnished as pellets.											
E630N(e)	ALL	0.75	V-0	-	-	120	110	110			1
		1.5	V-0	-	-	120	120	120			
		3	V-0	-	-	120	120	120			
E630N(e)(r5)	ALL	0.75	V-0	-	-	65	65	65			1
		1.5	V-0	-	-	65	65	65			
		3	V-0	-	-	65	65	65			
EL630N(e)	ALL	0.75	V-0	-	-	120	110	110			
		1.5	V-0	-	-	120	120	120			
		3	V-0	-	-	120	120	120			
EW630N(e)(r)	ALL	0.8	V-0	-	-	65	65	65			
		3	V-0	-	-	65	65	65			
RA230N(#)	ALL	0.4	V-0	-	-	65	65	65			0
		0.8	V-0	-	-	65	65	65			
		3	V-0	-	-	65	65	65			
Polyamide 6T (PA6T), alloy, "Arlen", furnished as pellets.											

AE1200(e), AE(c)200(e), AE8200(e)											
	ALL	0.89	HB	-	-	65	65	65			
AE4200N(e)	ALL	0.75	V-0	-	-	65	65	65			
Polyamide 6T (PA6T), glass reinforced, "Arlen", furnished as pellets.											
A3(d)(e)	ALL	0.75	HB	-	-	65	65	65			
C215(e), C2(d)(e)	ALL	0.75	HB	-	-	65	65	65			
C215N(e)	ALL	0.75	V-0	-	-	65	65	65			2
C230N(e)	ALL	0.75	V-0	-	-	65	65	65			2
C240(e)	ALL	0.75	HB	-	-	65	65	65			
		1.5	HB	-	-	115	95	115			
		3	HB	-	-	115	105	115			
Polyamide 6T (PA6T), glass reinforced, "ARLEN", furnished as pellets.											
C240NK(f1)	BK	0.75	V-0	0	0	65	65	65	1	6	1
		1.5	V-0	0	0	120	105	115			
		3	V-0	0	0	120	115	125			
Polyamide 6T (PA6T), glass reinforced, "Arlen", furnished as pellets.											
C430N(e)(r)	ALL	0.85	V-0	0	0	140	65	65			1
		1.5	V-0	0	0	140	65	65			
		3	V-0	0	0	140	65	65			
CH230N(e)(r4)	ALL	0.75	V-0	0	0	130	90	125			1
		1.5	V-0	0	0	130	120	125			
		3	V-0	0	0	130	120	125			
CH245N(e)	ALL	0.75	V-0	-	-	130	120	125			1
		3	V-0	-	-	130	120	125			
E430(#)	ALL	0.8	HB	-	-	50	50	50			
		3	HB	-	-	50	50	50			
Polyamide 6T (PA6T), "ARLEN", furnished as pellets.											
C18(s)(#)	ALL	0.86	HB	-	-	65	65	65			
C1800(#)	ALL	0.86	HB	-	-	65	65	65			
Polyamide 6T (PA6T), "Arlen", furnished as pellets.											
C230(e)(r)	ALL	0.86	HB	-	-	65	65	65			
C630N(e)(r2)	ALL	0.75	V-0	-	-	140	65	65			1
		3	V-0	-	-	140	65	65			
Polyamide 6T (PA6T), "ARLEN", furnished as pellets.											
C645NK(r1)	NC	0.8	V-0	-	-	65	65	65			
		3	V-0	-	-	65	65	65			
CE 1600K(r)	BK	0.75	HB	-	-	65	65	65			
Polyamide 6T (PA6T), "Arlen", furnished as pellets.											
CE2200NK	BK	0.86	V-0	-	-	65	65	65			
Polyamide 6T (PA6T), "ARLEN", furnished as pellets.											
CH245NK(r1)	NC	0.8	V-0	-	-	65	65	65			
		3	V-0	-	-	65	65	65			
CT230NWX	WT	0.8	V-0	-	-	65	65	65			
Polyamide 6T (PA6T), furnished as pellets.											
A335	NC	0.75	HB	-	-	65	65	65	0	5	0
		3	HB	0	0	65	65	65			
Polycarbonate/Polyactic Acid, "Lacea", furnished as pellets.											
Y-152JK(cc)	GY	1.6	V-2	-	-	50	50	50			
Y-152JR(cc)	GY, BN	1.6	V-2	-	-	50	50	50			
Y-152JS(cc)	GY	1.5	V-2	-	-	50	50	50			
Polyethylene (PE), furnished as pellets.											
240M Million	NC	1.5	HB	-	-	-	-	-			
Polyimide (PI), "Aurum", furnished as pellets, powder, sheets.											
JCR3030F	NC	0.5	V-0	-	-	50	50	50			
PD 450, PL 450C	ALL	0.4	V-0	-	-	50	50	50			
		1.5	V-0	-	-	240	50	50			
		2	V-0, 5VA	-	-	240	50	50			

Polyimide (PI), "New-TPI", furnished as pellets.											
JCN3030	BK	0.4	V-0	-	-	50	50	50			
JGN3030	ALL	0.4	V-0	-	-	50	50	50			
		1.5	V-0	-	-	260	50	50			
		3	V-0	-	-	260	240	260			
Polymethyl Pentene (PMP), "TPX", furnished as pellets.											
MCC250, TP400	ALL	1.5	HB	-	-	50	50	50			
MLL411	WT, RD, BL, BK	0.80-0.90	HB	-	-	50	50	50			
	GY	0.70-0.90	HB	-	-	50	50	50			
MSR217	NC	0.75	HB	-	-	50	50	50			
MX001	ALL	0.75	HB	-	-	50	50	50			
RT-18	ALL	0.75	HB	4	0	110	115	115	0	5	0
		1.5	HB	3	0	115	115	115			
		3	HB	2	0	115	115	115			
TP4(bb)	ALL	1.5	HB	-	-	50	50	50			
Polymethyl Pentene (PMP), furnished as pellets.											
MBZ230	NC, RD, BK	1.5	HB	-	-	50	50	50			
MBZ230A	NC	1.5	HB	-	-	50	50	50			
		3	HB	-	-	50	50	50			
MX002	ALL	1.5	HB	-	-	50	50	50			
MX004	ALL	1.5	HB	-	-	50	50	50			
RT18XB	ALL	1.5	HB	-	-	50	50	50			
RT31	ALL	1.5	HB	-	-	50	50	50			
Polyolefin, furnished as pellets.											
L3000	ALL	1.5	HB	-	-	50	50	50			
L4220	ALL	1.5	HB	-	-	50	50	50			
L4420	ALL	1.5	HB	-	-	50	50	50			
L5220	ALL	1.5	HB	-	-	50	50	50			
Polyolefin, furnished as pellets or powder.											
L4000	ALL	1.5	HB	-	-	50	50	50			
L5000	ALL	1.5	HB	-	-	50	50	50			

(#) - May be followed by 1 to 4 digits and/or letters
($) - Represents a Letter A through Z inclusive
(a) - Represents a digit 0-9 incl.
(bb) - Represents the percentage of glass content by two digits 01-39 incl.
(c) - Represents a digit 2 through 7 incl.
(cc) - Represents any two digit number from 00 to 99 inclusive.
(d) - Represents the percentage of glass content by two digits 16-39 incl.
(e) - With or without one or two letters A-ZZ incl. except N.
(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.
(j) - May or may not be followed by any number A0 to Z9 incl. denoting color code.
(r) - Virgin and regrind up to 50% by weight inclusive have the same flammability properties only.
(r1) - Virgin and regrind from 26 to 50% by weight inclusive have the same flammability and TI properties.
(r2) - Virgin and regrind from 26 to 50% by weight inclusive have the same flammability, HDT, and TS properties.
(r3) - Virgin and regrind up to 50% by weight inclusive have the same flammability properties to the minimum thickness of 0.8 mm only.
(r4) - Virgin and regrind up to 50% by weight inclusive have the same flammability properties only to the minimum thickness of 0.85 mm.
(r5) - Virgin and regrind up to 50% by weight inclusive have the same flammability and CTI properties only.
(s) - - represents two digits from 01 to 49.
(zz) - Represents any two digits 21-55 incl.
Marking: Company name or tradename "APEL" , "ARLEN" , "FR-TPX" , "Lubmer" , "MILASTOMER" , "TPX" , "ULTZEX" or trademarl

CTI 华测检测

180000343904

中国认可
国际互认
检测
TESTING
CNAS L1910

Test Report

Report No. A2230127740101005

Company Name shown on Report DONGGUAN SUN-ALONG PLASTIC PIGMENT CO., LTD

Address ROOM 601, BUILDING 1, NO. 323, LIAOBU JINXING ROAD, LIAOBU TOWN, DONGGUAN CITY, GUANGDONG PROVINCE

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

Sample Name	Color plate
Color	blue
Sample Received Date	Mar. 24, 2023
Testing Period	Mar. 24, 2023 to Mar. 29, 2023

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), Fluorine (F), Chlorine (Cl), Bromine (Br) Iodine (I) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

****

Conclusion

Tested Sample	According to standard/directive	Result
Submitted Sample	RoHS Directive 2011/65/EU with amendment (EU) 2015/863	PASS

****

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

Approved by Hill Zheng Date Mar. 29, 2023

Hill Zheng
Technical Manager

No. R262621146

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

Test Report

Report No. A2230127740101005

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC

Test Report

Report No. A2230127740101005

Test Result(s)

Tested Item(s)	Result	MDL	Limit
	005		
Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL	Limit
	005		
Polybrominated Biphenyls (PBBs)			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
	005		
Polybrominated Diphenyl Ethers (PBDEs)			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

Test Report

Report No. A2230127740101005

Test Result(s)

Tested Item(s)	Result	MDL	Limit
	005		
Phthalates (DBP, BBP, DEHP, DIBP)			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL
	005	
Fluorine (F)	N.D.	10 mg/kg
Chlorine (Cl)	N.D.	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Sample/Part Description

No.	CTI Sample ID	Description
1	005	Blue plastic

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

-MDL = Method Detection Limit

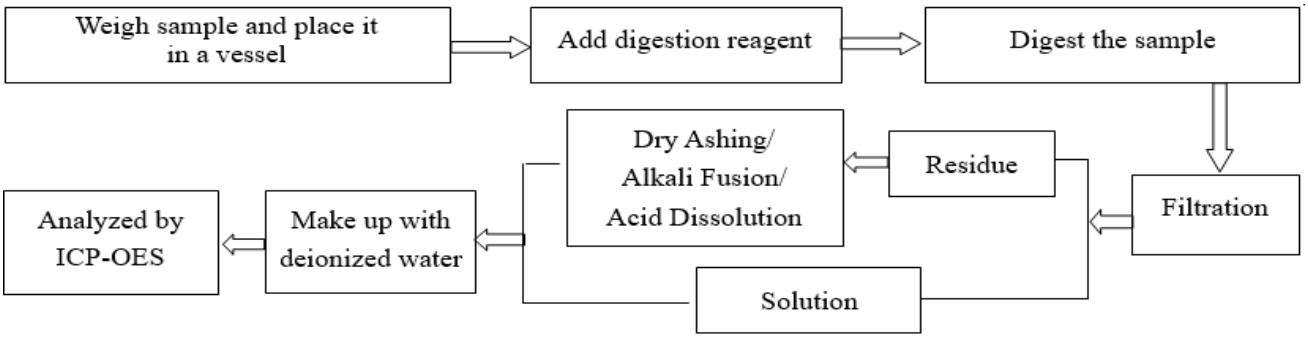
-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

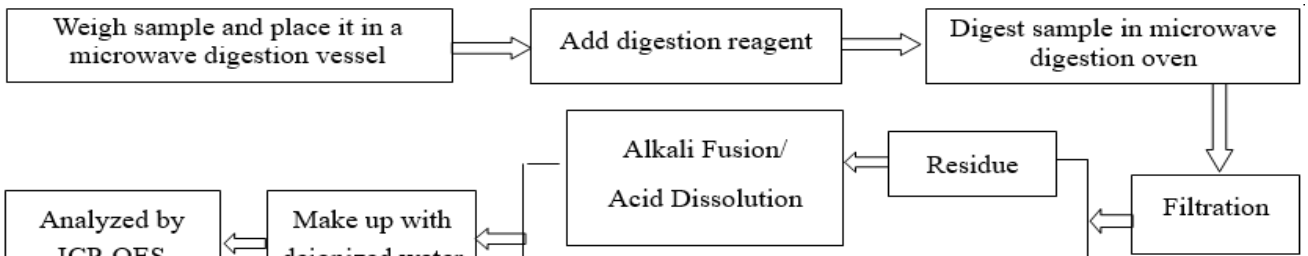
-1000 mg/kg = 0.1%

Test Process

1. Lead (Pb), Cadmium (Cd), Chromium (Cr)

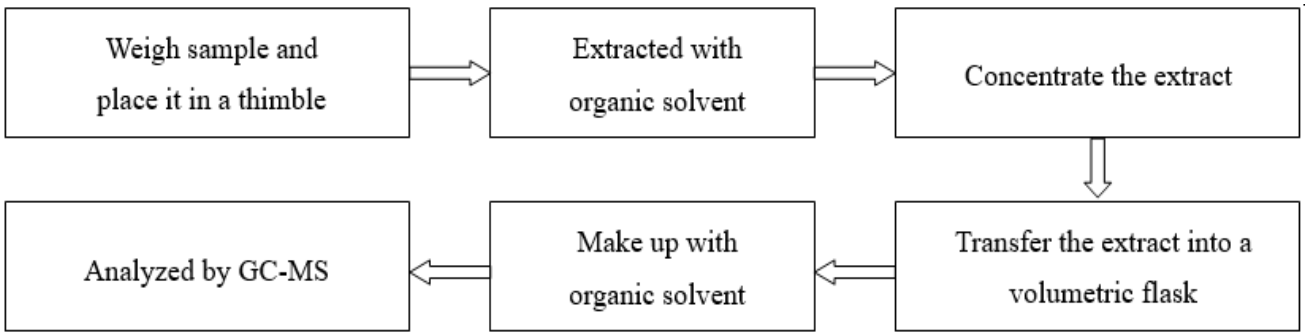


2. Mercury (Hg)

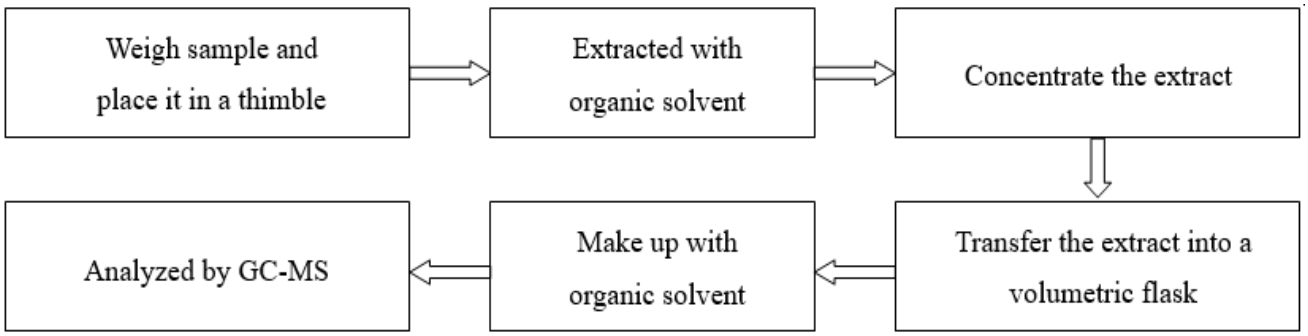


3. Hexavalent Chromium (Cr(VI))

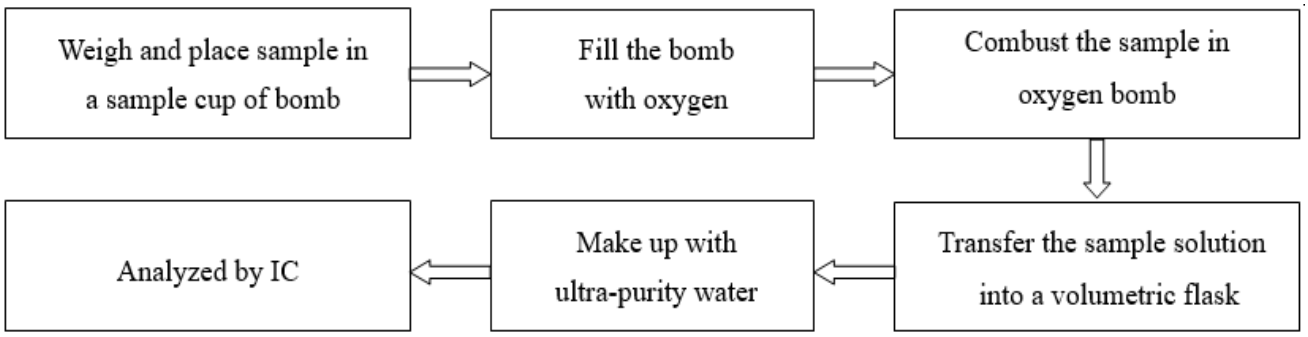
4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



Test Report

Report No. A2230127740101005

Photo(s) of the sample(s)



Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 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. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of report ***

MSDS

1.1 产品及公司资料

2023 年 6 月 6 日

产品名称：B63863 蓝色
制造商：东莞市顺鑫隆塑胶颜料有限公司
地址：东莞市寮步镇金兴路 323 号 98 春凯智造产业园 6 楼
电话：0769-83520856
传真：0769-83520867

2.2 组成信息

化学类别	混合物		
化学品名称	CAS 编号	%（W/W）	编码
377B	147-14-8	52.01%	
306	32724-62-2	30.64%	
189A	110-30-5	17.35%	

3.3 危害性分类

健康危害效应： 无
环境影响: 无
物理性及化学性危害: 无
特殊危害: 无

4. 4 急救措施

吸入若吸入熔融树脂逸出之气体, 将患者移至通风处, 立即送医
皮肤接触若接触到塑胶粒或塑胶粉末, 以清水冲洗
若接触到溶胶, 以大量(肥皂)水冲洗患部及衣物, 立即送医
眼睛接触若接触到塑胶粒或塑胶粉末， 以大量清水至少冲洗 15 分钟. 若有不适, 立即送医.
若接触到高温熔融树脂逸出之气体， 以大量清水至少冲洗 15 分钟，
若有不适, 立即送医

5.5 消防措施

适用灭火剂：水、泡沫、干粉
灭火时可能遇之特殊危害：无
特殊灭火程序：移除可燃物
消防人员之特殊防护设备：使用供氧式呼吸防护具

6.6 泄漏处理办法

胶粒为固体: 不存在泄漏患
环境注意事项: 设有良好的通风排气装置
清理方法: 回收可再利用

7. 7 安全处置与储存方法

处理: 作业场所严禁烟火并放置于阴凉干燥且通风良好之处
储存: 储存于紧密器内

8.8 暴露预防措施

CS 扫描全能王

工程控制：无需

生物指示：无需

个人防护设备：无需

呼吸防护：　　配戴口罩
眼睛防护：　　配戴护目镜
手部防护：　　配戴手套
卫生措施：　　进入工作区必须戴好个人防护物件. 做好“5S”

9.9 物理及化学物质

物质状态：固体物
形状：颗粒状
颜色：所有
气味：塑胶味
自然温度：无资料
沸点/沸点范围：无资料
蒸气压：不会产生气压
爆炸界限：无资料
密度：（水=1）1.20-1.25
蒸气密度：不会产生蒸气
溶解度：不溶于水
安定性：属安定

10.10 安全性及反应性

应避免之状况：无资料
应避免之物质：强氧化剂、强还原剂
危害分群物：一氧化碳、二氧化碳

11.11 毒性资料

刺激性：分解后之塑胶产生的烟及蒸汽会刺激眼睛

12.12 生态资料

为防止被海洋生物或鸟类吞食，严禁丢弃至海洋或水域

13.13 废弃物处理

适当之焚化炉燃烧或掩埋法。不适当之焚化炉可能会产生有毒气体

14.14 运送资料

未分类

15.15 法规资料

无

16.16 其他资料

无

东莞市振鑫隆塑胶颜料有限公司

2022-6-6

Test Report

No.: CANEC24008510516 **Date:** May 08, 2024

Client Name: DONGGUAN CITY DINGRONG MATERIAL CO.,LTD

Client Address: BUILDING B,NIGU ROAD,SHA AO INDUSTRIAL ZONE,SHUTIAN COMMUNITY,HUMEN TOWN,DONGGUAN CITY

Sample Name: C2680 H65

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

SGS Job No.: GZP24-013005

Sample Receiving Date: Apr 26, 2024

Testing Period: Apr 26, 2024 ~ May 06, 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).

Test Requirement	Conclusion
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)	Pass

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

Allie Chen

Allie Chen
Approved Signatory

scan to see the report
8B4D3C1B

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t (86-20) 82155555 sgs.china@sgs.com

Test Result(s):

Test Part Description：

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN24-0085105-0001.C001	Golden metal

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 62321-7-1:2015, IEC 62321-6:2015 and IEC62321-8:2017, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1
Lead (Pb)	1000	mg/kg	2	43
Mercury (Hg)	1000	mg/kg	2	ND
Cadmium (Cd)	100	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm²	0.10	ND
Polybromobiphenyl (PBB)	1000	mg/kg	-	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	5	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	5	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	5	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	5	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	5	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	5	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	5	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	5	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	5	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	5	ND
Polybromodiphenyl ether(PBDE)	1000	mg/kg	-	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	5	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	5	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	5	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	5	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	5	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	5	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	5	ND

检验检测专用章 Inspection & Testing Services
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Technical Services Technical Laboratory

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Test Item(s)	Limit	Unit(s)	MDL	A1
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	5	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	5	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	5	ND
Bis(2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
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) ▼ =
a. The sample is positive for Cr(VI) if the Cr(VI)concentration is greater than 0.13 μg/cm^2. The sample coating is considered to contain Cr(VI).
b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 μg/cm^2). The coating is considered a non-Cr(VI) based coating.
c. The result between 0.10 μg/cm^2 and 0.13 μg/cm^2 is considered to be inconclusive-unavoidable coating variations may influence the determination.

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

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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检验检测专用章 Inspection & Testing Services

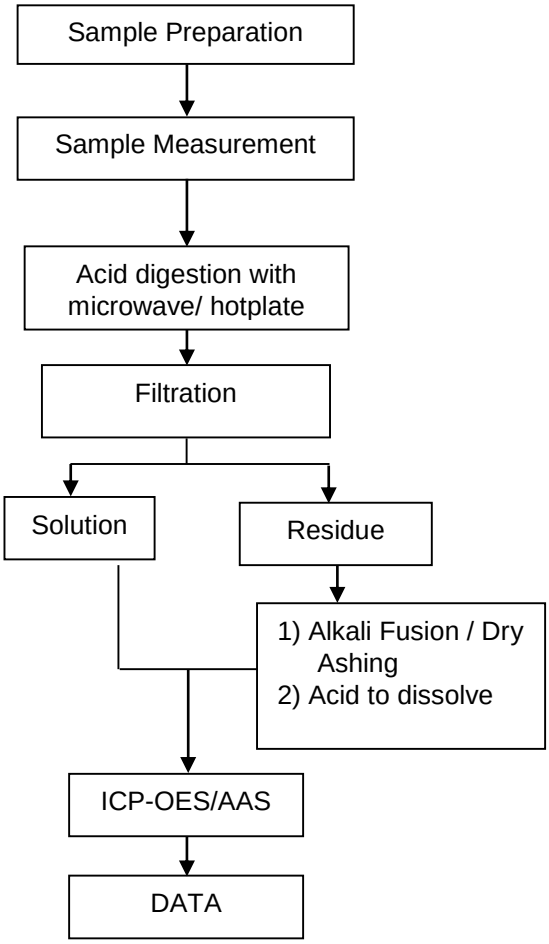
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Elements Testing Flow Chart

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



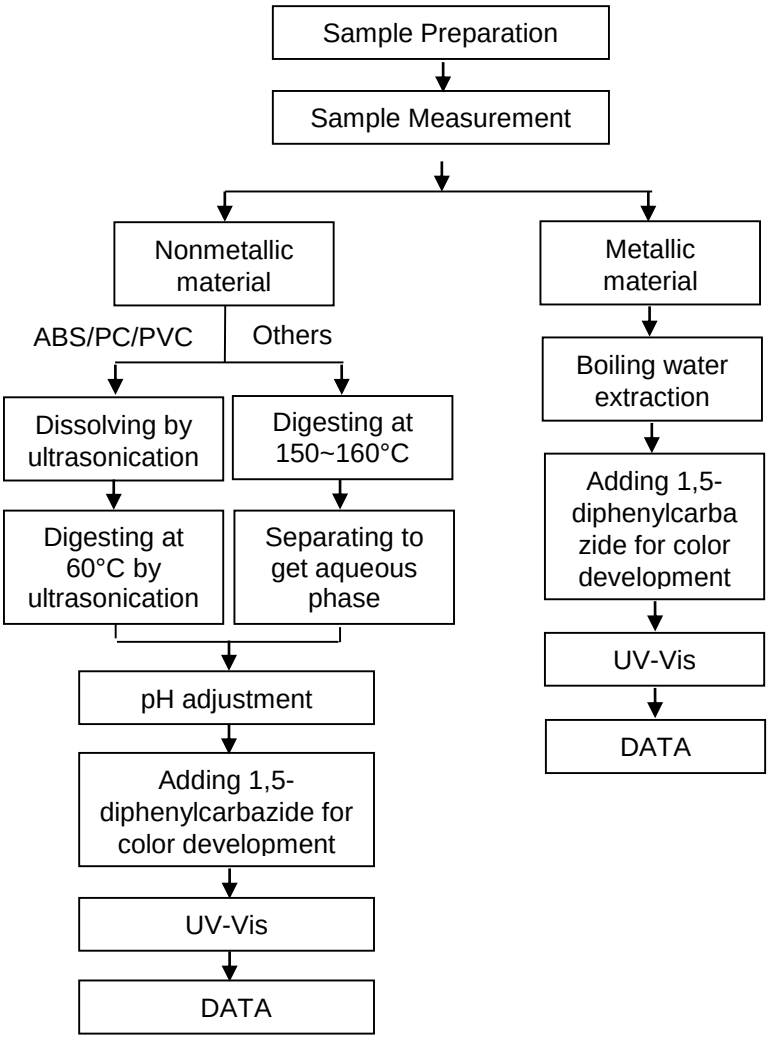
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Hexavalent Chromium (Cr(VI)) Testing Flow Chart



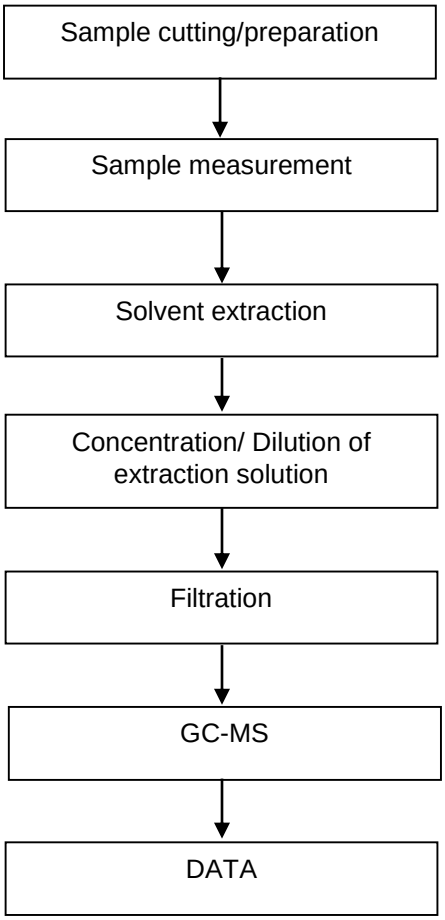
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PBB/PBDE Testing Flow Chart

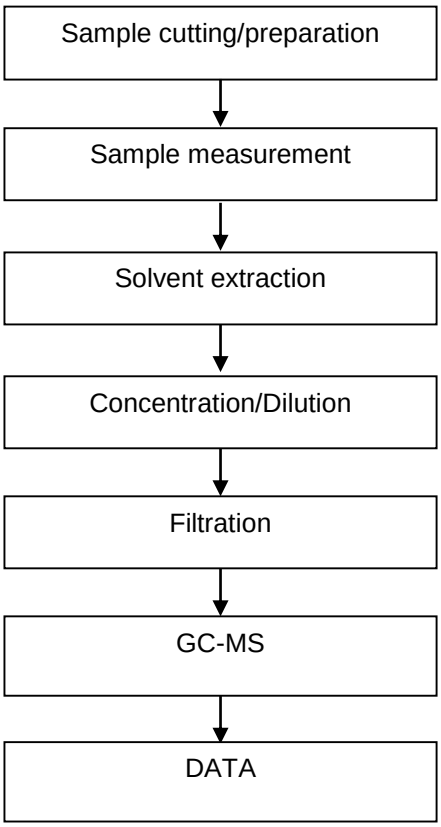


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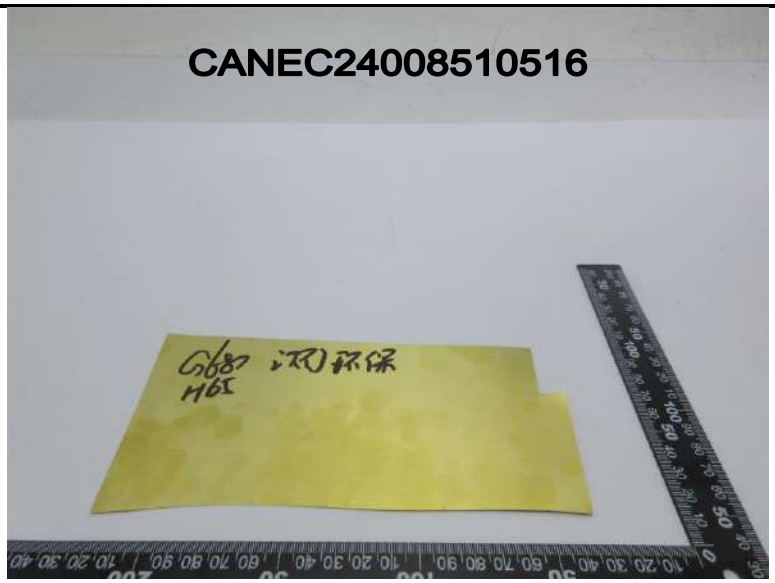
Phthalates Testing Flow Chart



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Sample Photo:



CAN24-0085105-0001.C001

SGS authenticate the photo on original report only

*** End of Report ***

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物质安全资料表
MATERIAL SAFETY DATA SHEET(MSDS)

1 供应商资料

物 品 名 称：C2680
供应商名称：东莞市鼎荣金属材料有限公司
地　　址：广东省东莞市虎门镇怀德怀雅大道73号B座
电　　话：0769-85220060
紧急联络人：陈建荣　　电话：13794827207　　传真：0769-85220061

2 成份辨识资料

中英文名称：

主要危害物质成份			化学文摘社登记号码CAS NO：	浓度或浓度范围（成份百分比）			危害物质分类及图示
成份名称	化学式	含量（%）		时量平均容许浓度TWA	短时间时量平均容许浓度STEL	最高容许浓度CEILIN	
Copper	Cu	63.5-66%	7440-50-8				
Zinc	Zn	34-36.5%	7440-66-6				
铅	Pb	<100ppm	7439-92-1			< 1000ppm	
镉	Cd	<10ppm	7440-43-9			< 100ppm	
汞	Hg	<10ppm	7439-97-6			< 10ppm	

3 危害辨识资料与急救措施

最重要危害效应

健康危害效应：不可食品
环境影响：可出售或回收再利用
物理性及化学与危害：固体常温性质稳定不会发生物理或化学反应
特殊危害：无
主要症状：无
物品危害分类：无

4 急救措施

急救措施

不同暴露途径之急救方法：吸入：不含化学刺激性气体无伤害
眼睛接触：不会对眼睛产生化学刺激
食入：立即就医

最重要危害效应：/无
对急救人员防护：/无
对医师之提示：/无

5 灭火措施

适用灭火器：水 二氧化碳灭火器　干粉灭火器
灭火时可能遭遇特殊危害：无
特殊灭火程序：无
消防人员之特殊防护设备：

6 泄露处理方法

个人应注意事项：此产品材料较峰利注意割伤
环境注意事项：切勿让其进入下水道/水面或地下水
清理方法：出售或再次利用

7 安全处置与储存方法

处置：防止磕碰，避免变形
储存：防潮、防酸避免氧化。

8	暴露预防措施	工程控制：避免受水、油类物质的影响，密封包装		
		参数控制：无		
		个人防护设备：一般保护和卫生措施		
		呼吸防护：不适用		
		手部防护：戴手套		眼睛防护：不适用
		卫生措施：不能乱丢		皮肤及身体防护：穿戴劳保衣服
9	物理及化学性质	物质状态：固体		形状：固体
		颜色：金黄色		气味：无味
		PH值：不适用		沸点/沸点范围：未有提供
		分解温度：无		闪火点：未有提供
				测试方法：未有提供
		自然温度：无		爆炸界限：未有提供
		蒸气压：无		蒸气密度：未有提供
		密度：8.43g/cm3		溶解度：未有提供
10	安定性及反应性	安定性：正常情况下安定性好		
		特殊状况下可能危害反应：无		
		应避免状况：避免受水、油类物质的影响		
		应避免之物质：酸、碱		
		危害分解物：无		
11	毒性资料	急毒性：无	致敏感性：无	
		局部效应：无		
		慢毒性或长期毒性：无		
		特殊效应：无		
12	生态资料	可能环境影响/环境流佈：无		
13	废弃处置方法	废弃处置方法：出售或回收再利用		
14	运送资料	国际运送规定：无		
		联合国编号：无		
		国内运送规定：无		
		特殊方法及注意事项：避免水源		
15	法规资料	适用法规：无		
16	其它	参考文献：		
		制表单位：东莞市鼎荣金属材料有限公司	名称：物质安全资料表	
		制表人：林和	地址/电话：东莞市虎门镇怀德怀雅大道73号B座 0769-85220060	
			职称：	
		制表日期：2018-1-1	公元：	

CTI 华测检测

Test Report

Report No. A2230497113102

Company Name shown on Report	SO GOOD SURFACE TREATMENT SHENZHEN CITY. CO.,LTD
Address	ENTREPRENEURSHIP 2ND ROAD, JIANG BIAN VILLAGE, SONG GANG TOWN. BAO' AN DISTRICT, SHENZHEN CITY

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

Sample Name(s)	Plating Gold Sample
Sample Received Date	Oct. 9, 2023
Testing Period	Oct. 9, 2023 to Oct. 13, 2023

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), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Antimony(Sb), Beryllium(Be), Perfluorooctanoic Acid(PFOA), Perfluorooctane Sulfonates(PFOS) in the submitted sample(s).
Test Method/Test Result(s)	Please refer to the following page(s).

****

Conclusion

Tested Sample	According to standard/directive	Result
Submitted Sample	RoHS Directive 2011/65/EU with amendment (EU) 2015/863	PASS

****

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

Approved by: Hill Zheng Date: Oct. 13, 2023

Hill Zheng
Technical Manager

No. S637431976

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

Test Report

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	Refer to IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	Refer to IEC 62321-5:2013	ICP-OES
Mercury (Hg)	Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Perfluorooctanoic Acid(PFOA)	CEN/TS 15968:2010	LC-MS-MS
Perfluorooctane Sulfonates(PFOS)	CEN/TS 15968:2010	LC-MS-MS
Beryllium(Be)	Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
Antimony(Sb)	Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES

Test Report

Test Result(s)

Tested Item(s)	Result	MDL	Limit
	002		
Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.▼	0.10 μg/cm² (LOQ)	1000 mg/kg

Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Biphenyls (PBBs)			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Diphenyl Ethers (PBDEs)			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

Test Report

Tested Item(s)	Result	MDL	Limit
	002		
Phthalates (DBP, BBP, DEHP, DIBP)			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL
	001	
Fluorine (F)	N.D.	10 mg/kg
Chlorine (Cl)	N.D.	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
	001	
Perfluorooctanoic Acid(PFOA)	N.D.	0.010 mg/kg

Tested Item(s)	Result	MDL
	001	
Perfluorooctane Sulfonates(PFOS)	N.D.	0.010 mg/kg

Tested Item(s)	Result	MDL
	001	
Antimony(Sb)	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
	001	
Beryllium(Be)	N.D.	2 mg/kg

Test Report

Sample/Part Description

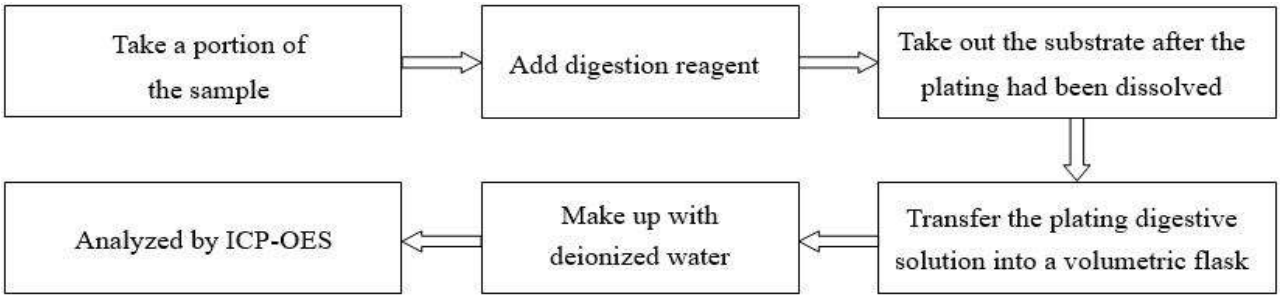
No.	CTI Sample ID	Description
1	001	Metal with golden plating
2	002	Golden plating

Remark: -MDL = Method Detection Limit
-N.D. = Not Detected (<MDL or LOQ)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%
-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. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

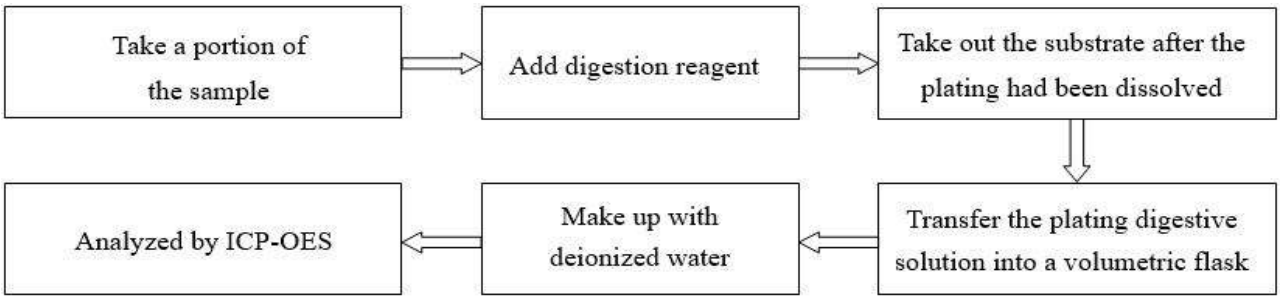
Test Report

Test Process

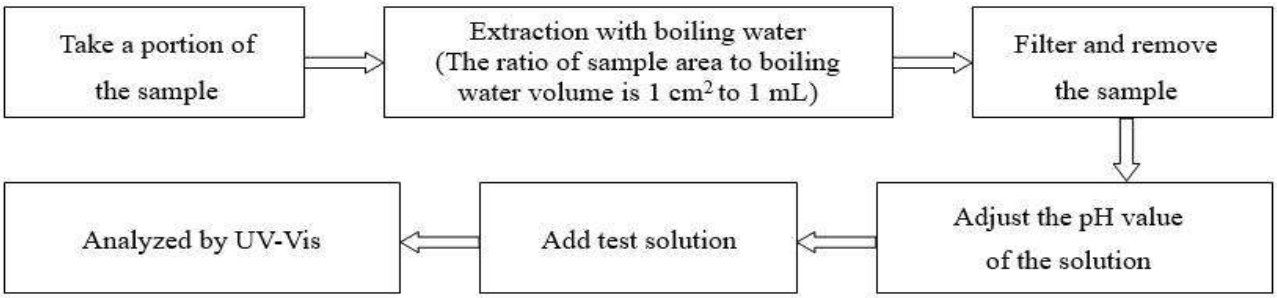
1. Lead (Pb), Cadmium (Cd)



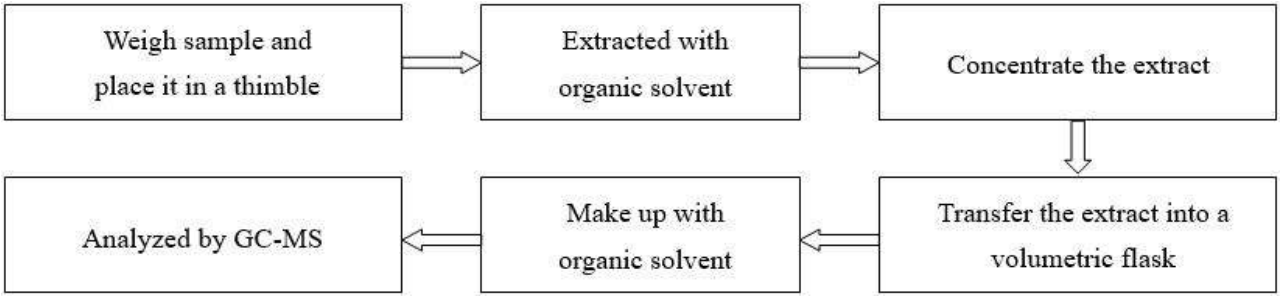
2. Mercury (Hg)



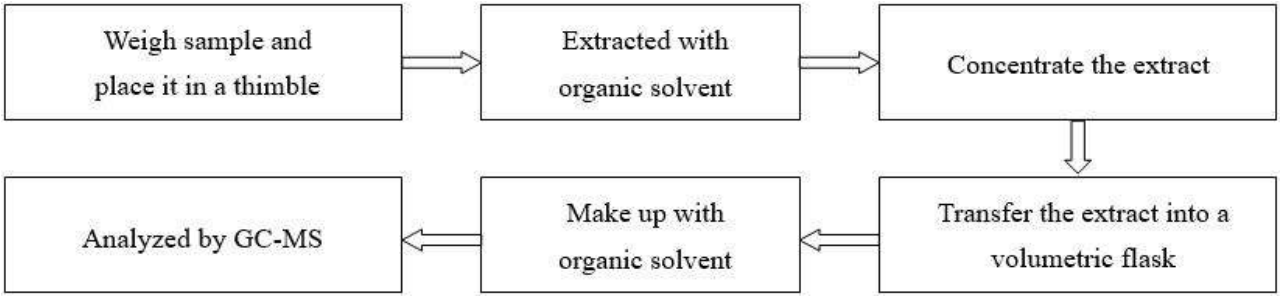
3. Hexavalent Chromium (Cr(VI))



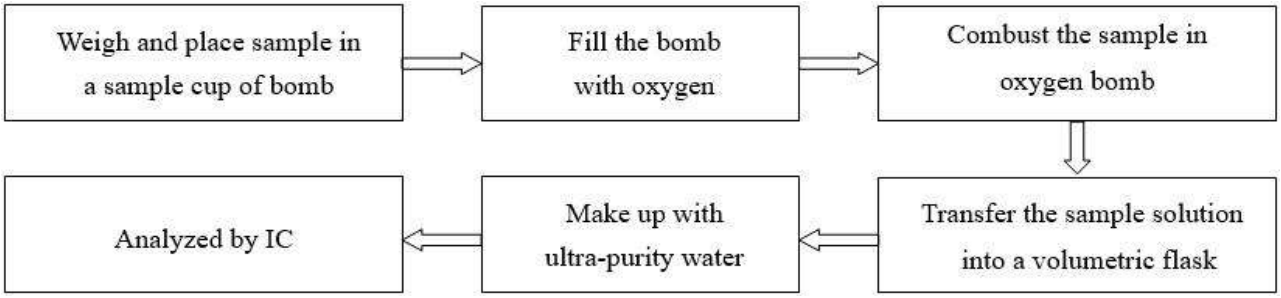
4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



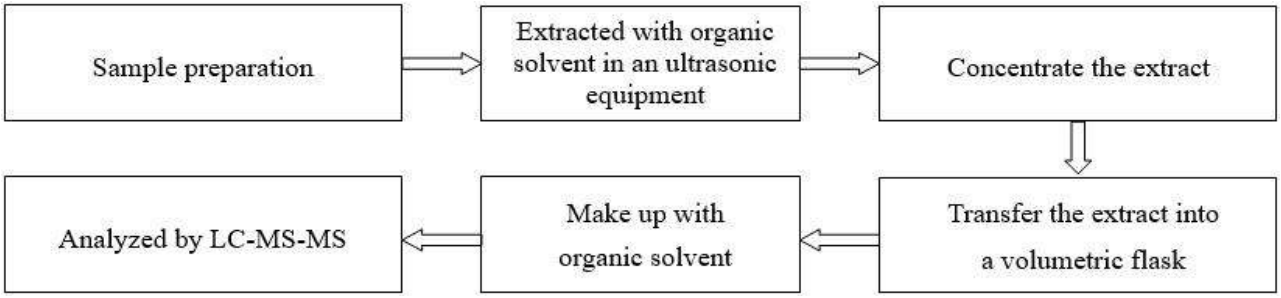
5. Phthalates (DBP, BBP, DEHP, DIBP)



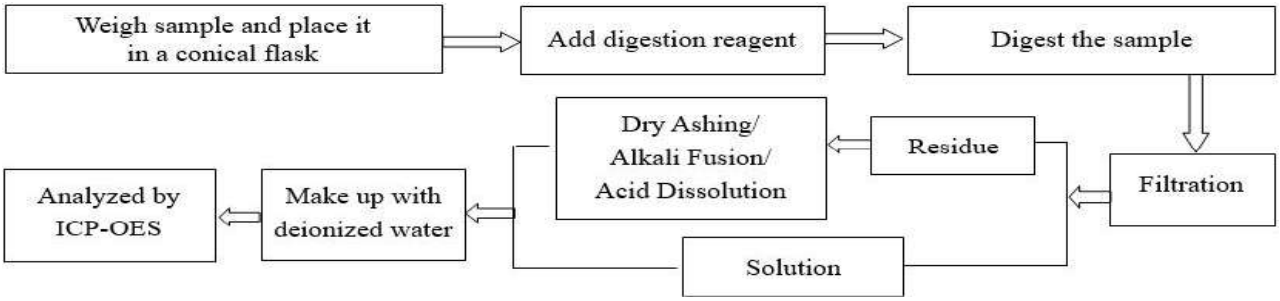
6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



7. Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)

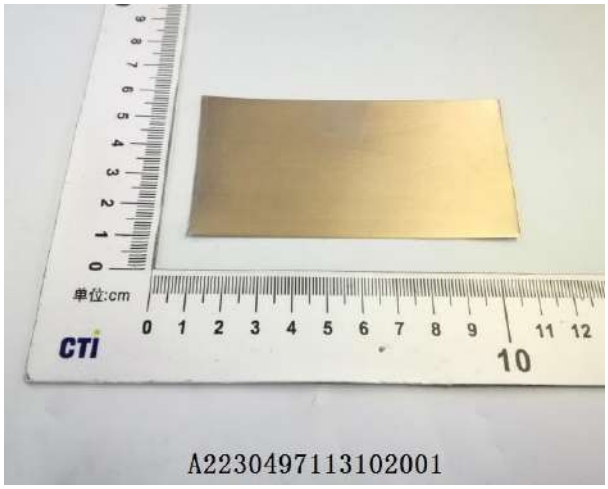


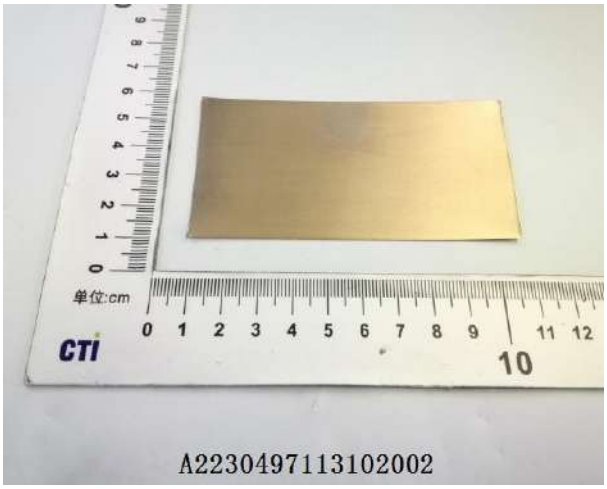
8. Antimony(Sb), Beryllium(Be)



Test Report

Photo(s) of the sample(s)





Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 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. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of Report ***

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

MSDS 物质安全环保书

一.制造或供应商资料:

制造或供应商名称：苏州兴瑞贵金属材料有限公司
生产地址：江苏省苏州市吴中经济开发区兴南路 1 号
公司紧急联系人：张驰 0755-27074014

二.供物料名称及主要成份和用途

物料名称: 氰化亚金钾（用于连续端子镀金）		化学文摘社登记号 CAS. NO
物质成份	含量	
金	99.99%	7440-57-5
钴	0.01%	7440-48-4

三.相关危害性概述:

主要的危害状况	危险性类别：6.1 类 毒害品 侵入途径：呼吸道吸入，亦可通过皮肤、消化道吸收引起中毒。 健康危害：接触或误食氰化物后，感到咽喉紧缩感、口腔麻木、流涎、剧烈头痛、继而胸闷、心悸、呼吸困难甚至死亡等症状。。
	环境影响：含氰废水外排所造成的河流（地面水）、饮用水（地下水）的污染。
	特殊危害:：燃烧时放出有毒气体，无爆炸性。

四.急救方法:

皮肤接触：用清水冲洗皮肤，再用 5%硫代硫酸钠溶液冲洗

眼睛接触：用洗眼器冲洗后再用 5%硫代硫酸钠溶液冲洗

吸入：用 3%亚硝酸异戊酯 10-15ml 加入 25% 葡萄糖溶液 40ml 静脉缓慢注射。 注射完毕后随即用同一针头同一部位即刻缓慢静脉注射 5%硫代硫酸钠 25-50ml

食入：可用 10%硫代硫酸钠溶液或 1:2000 高锰酸钾溶液洗胃，洗胃后给适量硫酸亚铁溶液口服

五.灭火措施:

危险特性：不易燃烧，无爆炸性。

有害燃烧产物：氰化氢

灭火方法：用水、黄砂、 干粉灭火机扑救。

灭火注意事项：切忌冲入氰化亚金钾火灾现场中， 以防止毒水流淌，造成大量中毒。 禁用酸碱性或四氯化碳灭火器，消防人员进入火场前，应佩戴好防毒面具。

六.泄漏处理方法:

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

应急方法：固体如果泄露，应该小心将地面的固体收集并用水溶解处理掉。如发生氰化亚金钾水溶液泄漏或掉入水中， 现场人员应在保护好自身安全情况下， 及时检查隔绝事故泄漏部位。如在运输途中应向当地应急救援部门或“119”报警，报警内容应包括:事故单位；事故发生的时间、地点、化学品名称和泄漏量、危险程度； 有无人员伤亡中毒以及报警人姓名及电话。同时， 应根据氰化亚金钾泄漏扩散情况以及所涉及的区域建立警戒区， 并在通往事故现场的主要干道上实行交通管制，除消防及应急处理人员外， 其他人员禁止进入警戒区，并迅速撤离无关人员。处理过程中， 应佩戴个人防护用品及防毒面具，并有相应的监护措施。 地面残留物应用五倍次氯酸钠溶液分解清除，深埋于土中。消除方法：开瓶的氰化亚金钾尽量一次性用完。没有用完的应该将瓶盖拧紧。移、拿氰化亚金钾时要小心轻放，防止瓶子破损，存放时瓶子不要倒置。

七.安全处理与储存方法:

操作注意事项：操作时，操作人员必须穿好工作服，戴好手套， 口罩并备好防毒面具， 避免氰化亚金钾直接接触皮肤或吸入氰化亚金钾粉尘。工作结束后，必须用清水或 5% 硫代硫酸钠水溶液反复冲洗，并进行沐浴，换上清洁衣服。工作期间严禁饮食、吸烟。在使用氰化亚金钾过程中，氰化亚金钾水溶液温度不宜过高，以防生成氰化氢气体。另外， 配制氰化亚金钾水溶液的水必须是中性蒸馏水，否则在酸性水中会有黄色氰化亚金沉淀产生。

储存注意事项：贮存和使用氰化亚金钾过程中，要切记不要与酸类、 亚硝酸盐、硝酸盐等物质放置一处， 或者把氰化亚金钾暴露于酸性环境下，这样会降低产品质量和使用效果； 也不可长期贮藏在潮湿的环境里和露天堆放， 宜在通风干燥地点贮藏，实行专库或专柜，双人双锁保管，贮存时要进行检验， 定期养护，控制贮存场所的温湿度， 并进行相应的通风或降潮湿措施，贮藏地点要准备相应的防毒口罩、 面具及个人防护用品，以及相应的消防设备， 装卸时要穿戴好个人防护用品，并防止破损漏撒及雨淋水湿。

八 暴露预防措施:

最高容许浓度：无

检测方法：无

工程控制：工艺设备要严格密闭，防止泄漏， 并且要提高自动化水平，减少操作人员与氰化亚金钾接触;岗位要保证良好的通风，减少氰化物粉尘的伤害。

呼吸系统防护：防 HCN 的防毒口罩及防毒面具

眼睛防护：戴防护镜，配洗眼器

身体防护：穿工作服

手防护：戴手套

其他防护：穿防护橡胶鞋

九 物理及化学物特征:

外观与性状： 白色粉末，属立方晶系。	
分子式：$KAu(CN)_2$	
pH 值：10-11	**熔点（℃）：**140 度分解
相对密度（水＝1）：无资料	**沸点（℃）：**无资料
相对蒸气密度（空气＝1）：无资料	**辛醇/水分配系数：**无资料
闪点（℃）：无意义	**引燃温度（℃）：**无意义
爆炸上限[%（V/V）]：无意义	**爆炸下限[%（V/V）]：**无意义
燃烧热（kJ/mol）：无意义	**临界温度（℃）：**无意义
临界压力（MPa）：无意义	
溶解性：220g/1L 水（20 度）	
主要用途：重要的电镀化工原料，是集成线路板或工艺品的主要镀金原料。	
其他理化性质：微溶于乙醇中，属Ⅰ级剧毒品，易潮解，无味。	

十 稳性及反应活性：

稳定性：氰化亚金钾属较活泼的化合物，易与酸作用， 甚至很弱的酸亦能与之反应而析出黄色氰化亚金放出氰化氢气体。铁、锌、镍、铜、铝等金属溶解于氰化亚金钾水溶液，还原出黄金。水溶液长时间放置，氰根在氧的参与下，会发生分解反应使氰化亚金钾溶液变红。

禁配物：酸类物质、氯酸钾、亚硝酸盐、硝酸盐

避免接触的条件：混合

聚合危害：无

分解危害：产生氰化氢气体

十一.毒性资料:

急性毒性：LD_{50}：50 mg/kg(大鼠经口)

LC_{50}：无资料

亚急性和慢性毒性：头痛、头昏、失眠、记忆力及注意力减退、食欲不振、恶心腹痛、便秘、尿频、

心前区压迫感、血压低心悸、呼吸困难，全身肌肉酸痛或刺痛、病情发展则精神萎糜，智力减退，甲状腺增大、性功能减退。

刺激性：粉尘对五官的刺激

致敏性：皮肤红肿、瘙痒

三致反应：现尚无定论，最近动物实验证明长期经口摄入微量 KCN 对小鼠繁殖有影响，动物的子代（一、二年代）死亡率升高，妊娠次数明显下降、死胎可增多。丙烯腈等有机氰对动物证明有致癌和诱变作用，对人尚未证实。

其他：氰化物进入人体后迅速离解出氰基(CN-)，氰离子在体内能迅速与氧化型细胞色素氧化酶(Fe3+)结合，并阻碍其被细胞色素还原为还原型细胞色素氧化酶(Fe2+)， 结果就失去了传递氧的功能，引起组织缺氧，导致组织内窒息。

十二.生态资料:

生态毒性：对大部分动物有毒害作用

生物降解性：差

非生物降解性：紫外分解或氧分解

生物富集或生物积累性：无

其他有毒作用：氰化物废水处理排放的废水中 NH3-N，含量较高，易造成水资源富营养化，从而使浮游藻类大量繁殖，水体透明度下降， 溶解氧降低，威胁鱼类生存,水质发臭出现“赤潮”。

十三.废弃物处置方法:

废弃物性质：剧毒废物

废弃物处理方法：氰化亚金钾包装物处理和污染物处理， 必须先用水冲洗，冲洗后的水溶液必须收集起来，集中处理。 废水溶液处理方法有碱性氯化法、电解氧化法、加压水解法， 生物-铁法、硫酸亚铁法等多种。

废弃注意事项：防止接触皮肤、眼、鼻和呼吸器官，防止与酸废液接触氰化氢产生。防止盗窃。

十四.运送及交货规定

危险货物编号：61001

UN 编号：1588

包装标志：剧毒品

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

包装类别：I 类包装

包装方法：以 PE 瓶扣盖密封铝膜包装，每瓶净重 100g。

运输注意事项：公路运输氰化亚金钾时，车辆必须是剧毒品运输车。在装好氰化亚金钾行车前，要认真检查货物捆绑是否扎实，是否泄漏， 行车途中要经常停车检查货物是否松绑、雨淋等状况，发现问题及时解决，停车住宿必须在有人 24 小时值班巡查的正规停车场，卸完货物后要认真及时、 清洗车辆，以防止氰化亚金钾泄漏、污染、丢失、被盗及中毒。

十五.法规资料:

法规信息：中华人民共和国安全生产法

中华人民共和国固体废物污染环境防治法

使用有毒物品作业场所劳动保护条例

关于防止发生毒气泄漏和爆炸事故的通知

十六.其他信息

参考文献：黄金矿山氰化物的安全管理与使用，江苏劳动保护，2005 年 3 期。

修改说明：无

其他信息：无

首顾表面处理(深圳)有限公司

2021.4.20

CTI 华测检测

Test Report

Report No. A2230497113105

Company Name shown on Report	SO GOOD SURFACE TREATMENT SHENZHEN CITY. CO.,LTD
Address	ENTREPRENEURSHIP 2ND ROAD, JIANG BIAN VILLAGE, SONG GANG TOWN. BAO' AN DISTRICT, SHENZHEN CITY

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

Sample Name	Plating MatteTIN Sample
Sample Received Date	Oct. 9, 2023
Testing Period	Oct. 9, 2023 to Oct. 13, 2023

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), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctanoic Acid(PFOA), Perfluorooctane Sulfonates(PFOS), Beryllium(Be), Antimony(Sb) in the submitted sample(s).
Test Method/Test Result(s)	Please refer to the following page(s).

****

Conclusion

Tested Sample	According to standard/directive	Result
Submitted Sample	RoHS Directive 2011/65/EU with amendment (EU) 2015/863	PASS

****

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

Approved by: Hill Zheng Date: Oct. 13, 2023

Hill Zheng
Technical Manager

No. S637439417

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

Test Report

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	Refer to IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	Refer to IEC 62321-5:2013	ICP-OES
Mercury (Hg)	Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Perfluorooctanoic Acid(PFOA)	CEN/TS 15968:2010	LC-MS-MS
Perfluorooctane Sulfonates(PFOS)	CEN/TS 15968:2010	LC-MS-MS
Beryllium(Be)	Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
Antimony(Sb)	Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES

Test Report

Test Result(s)

Tested Item(s)	Result	MDL	Limit
	002		
Lead (Pb)	40 mg/kg	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.▼	0.10 μg/cm² (LOQ)	1000 mg/kg

Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Biphenyls (PBBs)			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Diphenyl Ethers (PBDEs)			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

Test Report

Tested Item(s)	Result	MDL	Limit
	002		
Phthalates (DBP, BBP, DEHP, DIBP)			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL
	001	
Fluorine (F)	N.D.	10 mg/kg
Chlorine (Cl)	N.D.	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
	001	
Antimony(Sb)	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
	001	
Perfluorooctane Sulfonates(PFOS)	N.D.	0.010 mg/kg

Tested Item(s)	Result	MDL
	001	
Perfluorooctanoic Acid(PFOA)	N.D.	0.010 mg/kg

Tested Item(s)	Result	MDL
	001	
Beryllium(Be)	N.D.	2 mg/kg

Test Report

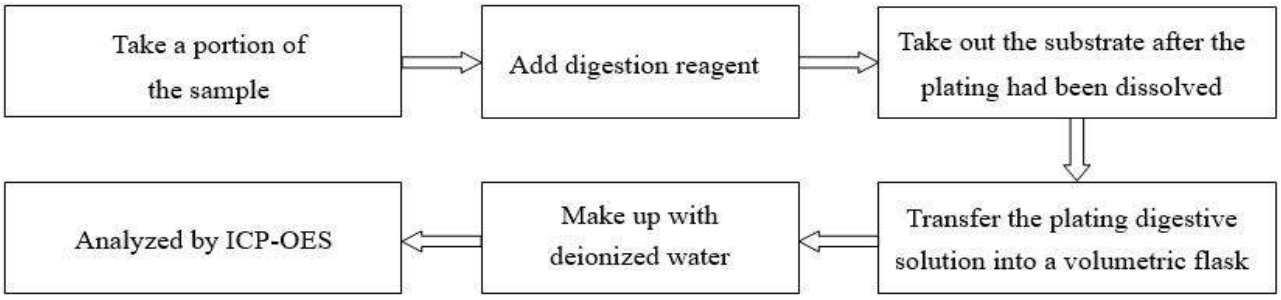
Sample/Part Description

No.	CTI Sample ID	Description
1	001	Metal with silvery white plating
2	002	Silvery white plating

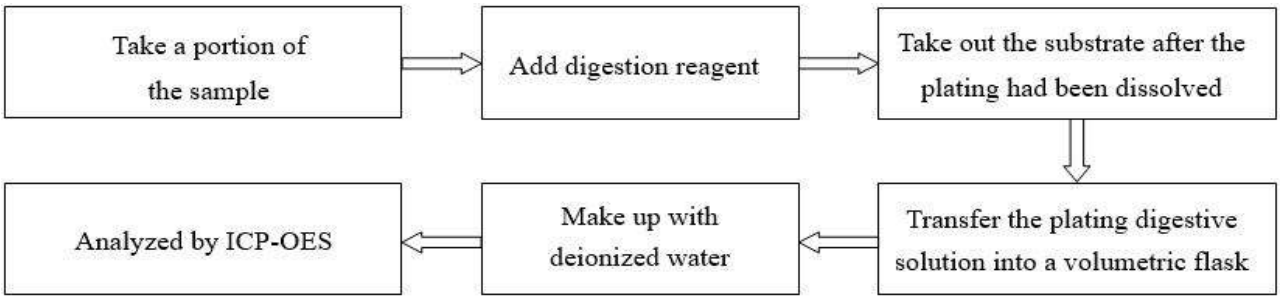
Remark: -MDL = Method Detection Limit
-N.D. = Not Detected (<MDL or LOQ)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%
-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2
-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10 μg/cm^2. The coating is considered a non-Cr(VI) based coating. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

Test Process

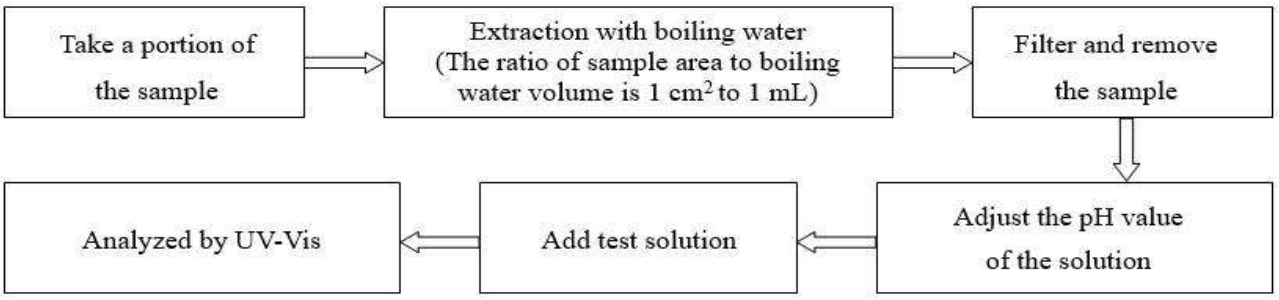
1. Lead (Pb), Cadmium (Cd)



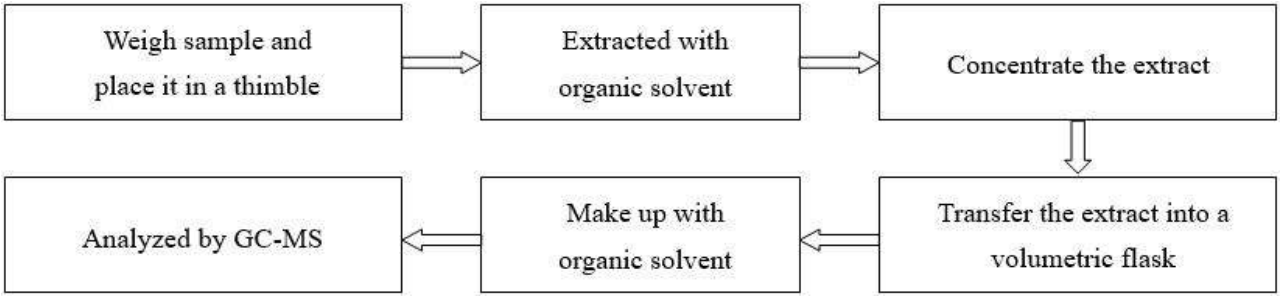
2. Mercury (Hg)



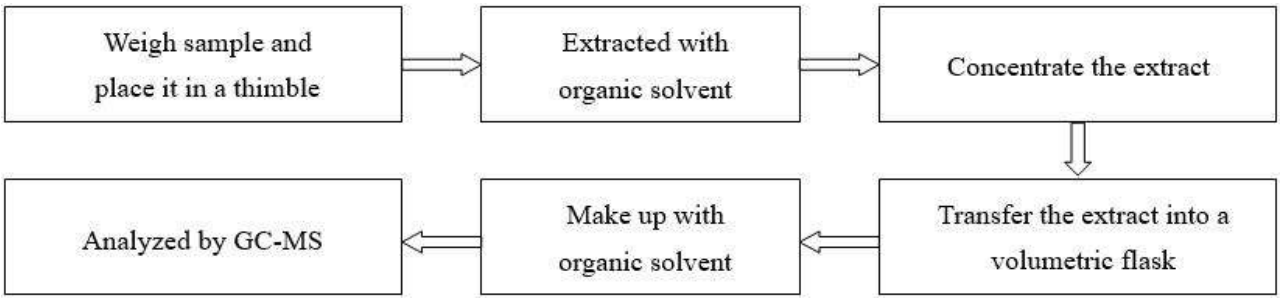
3. Hexavalent Chromium (Cr(VI))



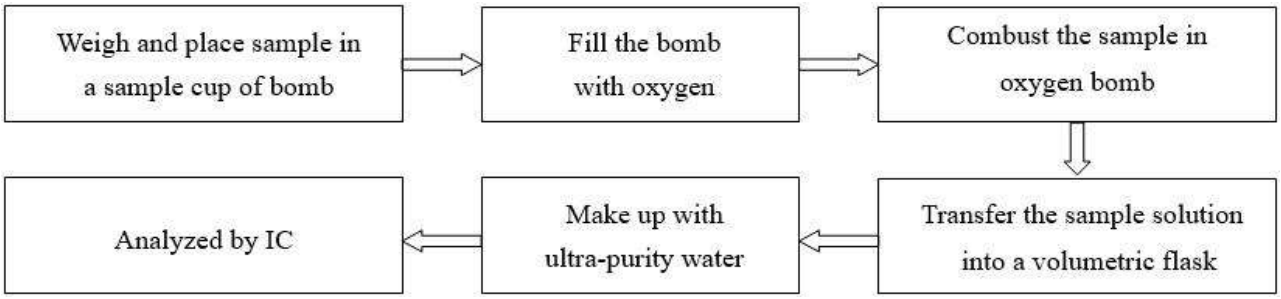
4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



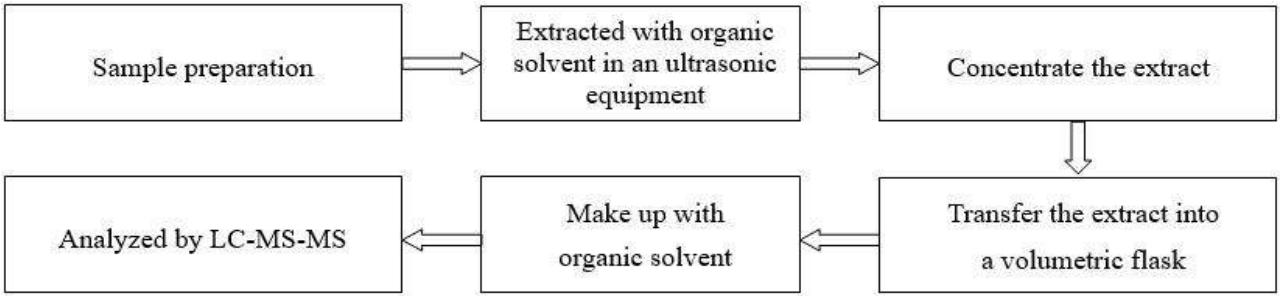
5. Phthalates (DBP, BBP, DEHP, DIBP)



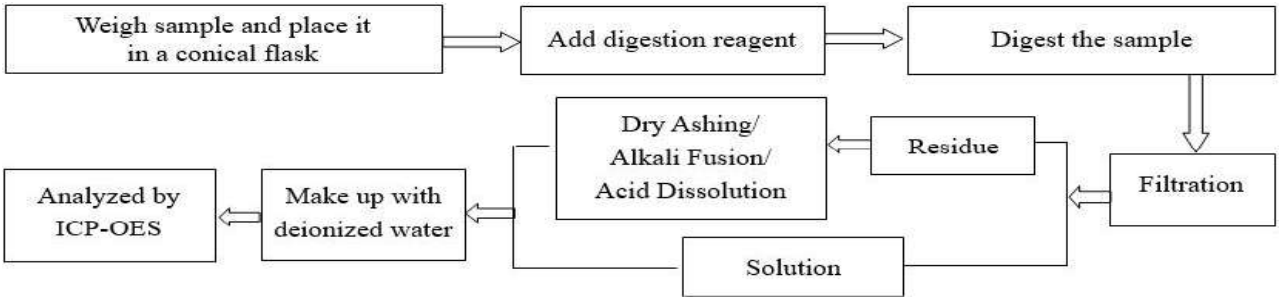
6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



7. Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)



8. Antimony(Sb), Beryllium(Be)



Test Report

Photo(s) of the sample(s)





Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 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. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of Report ***

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

MSDS 物质安全环保书

一.制造或供应商资料:

制造或供应商名称：东莞市乐诚金属材料有限公司
地址：东莞市虎门镇南栅上南路 9 号（近连升路红绿灯处）
紧急联系人：0755-27074014 张驰

二.供物料名称及主要成份和用途

物料名称:纯锡球（用于连续端子镀锡）		化学文摘社登记号 CAS. NO
物质成份	成份百分比	
锡 Sn	99.990	**7440-31-5**
铁 Fe	0.0025	7439-89-6
铜 Cu	0.0016	7440-50-8
铋 Bi	0.0018	7440-69-9
锌 Zn	0.0003	7440-66-6
铝 Al	0.0005	7429-90-5
硫 S	0.0003	63705-05-5
银 Ag	0.003	7440-22-4

注：产品中含的微量元素，经过电镀分解后镀层里面不会含有

三.相关危害状况资料:

主要的危害状况	健康危害状况: 吸入：熔融焊料温度 500 摄氏度以上时，可能产生蒸气，吸入后可能造成贫血、失眼、体弱无力、便秘、恶心、腹痛等；状况严重时，可能会对中枢神经造成影响，甚至对生殖，消化系统也会造成一定的影响。 皮肤接触：高温熔融时会对皮肤造成烫伤. 食入：表现症状为消化不良.
	环境影响： (空白)
	特殊危害:：(空白)
主要症状：眩晕、头痛、皮肤过敏等.	

四.急救方法:

不同危害之急救方法: 吸入：吸入蒸气造成呼吸困难时须将患者移动到空气流通较好处.并及时送医院诊治
皮肤接触：用肥皂水清洗,烫伤用冷水降温后或皮肤过敏时应请医生处理 食入：及时请医生处理.
主要的危害状况：(同三,相关危害状况资料之健康危害状况)
对急救人员之防护：(空白)
对医生之提示：(空白)

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

五.灭火措施:

适用灭火器：二氧化碳、化学干粉、泡沫灭火器、水。使用灭火时，须避免高温焊料遇水喷溅造成的人员烫伤。
灭火时可能碰到的特殊状况：熔融之合金在高的温度下遇水时可能会产生严重喷溅，可能会造成人员烫伤。
消防人员之特殊防护设备：灭火人员须穿防火衣和配戴便携式呼吸器

六.泄漏处理方法:

个人注意事项：熔融态的焊料须经冷却到常温后方可处理,避免烫伤.
环境注意事项：泄漏物须回收.
清理方法：冷却后刮取回收.

七.安全处理与储存方法:

处置：作业温度不宜高于 500 摄氏度，人员须配戴防护设备，避免吸入蒸气、粉尘，清扫时不宜使用干扫把及高温气体喷刷，以免粉尘飞扬。
储存：储存时须防水，防污染，包装须标示危害物标识。

八 暴露预防措施:

工程控制：须设置充分的局部排气及全面换气设备，控制暴露浓度低于时量平均容许浓度。
控制参数： 八小时工作日平均容许浓度：锡-2.0mg/立方米：铜-0.1mg/立方米; 短时间平均容许浓度: (空白) 最高容许浓度: (空白)　　生物指标: (空白)
个人防护设备 呼吸防护：防尘面置；　手部防护：防护手套； 眼部防护：护目镜，洗眼器　皮肤及身体防护：防护衣、防护鞋
卫生措施:作业后,饮食前应漱洗,作业中不得饮食,抽烟,化妆,作业人员不可配戴隐形眼镜.

九 物理及化学物特征:

物质状态：金属固体	形状：条状，棒状
颜色：银灰色	气味：无
PH 值：无	沸点：(空白);熔点:224 229 摄氏度
分解温度：无	闪火点：无
自然温度：无	爆炸界限：无
蒸气压：无	蒸气密度 (空气=1):无
挥发速率：　(乙酸丁酯=1):无	不熔解
比重：(水=1):7.39	

十 安定性及反应生:

安定性：安定

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

特殊状况下可能之危害： (空白)
应避免之状况：热、火焰、潮湿浸水
应避免之物质：强氧化剂、强酸、双氧水
危害分解物：金属粉尘及蒸气

十一.毒性资料:

急毒性：(空白)
致敏感性： (空白)
慢毒性或长期毒性：(空白)
特殊效应： (空白)

十二.生态资料:

可能之环境影响/环境流布： 土壤流布: (空白) 水中流布: (空白)

十三.废弃物处置方法:

废弃物处置方法：回收，再炼制或按废物处理法规处理.

十四.运送及交货规定

国内运送规定： (空白)
特殊运送方法及注意事项：(空白)
交货期限：按合同或订购单之交货日期交货

十五.法规资料:

适用法规:危险物及有害物通用法规

十六.其他信息

其他信息无

首顾表面处理(深圳)有限公司

2021.4.20

Test Report

Report No. A2230497113103 Page 1 of 9

Company Name shown on Report	SO GOOD SURFACE TREATMENT SHENZHEN CITY. CO.,LTD
Address	ENTREPRENEURSHIP 2ND ROAD, JIANG BIAN VILLAGE, SONG GANG TOWN. BAO' AN DISTRICT, SHENZHEN CITY

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

Sample Name(s)	Plating Nickel Sample
Sample Received Date	Oct. 9, 2023
Testing Period	Oct. 9, 2023 to Oct. 13, 2023

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), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctanoic Acid(PFOA), Perfluorooctane Sulfonates(PFOS), Beryllium(Be), Antimony(Sb) in the submitted sample(s).
Test Method/Test Result(s)	Please refer to the following page(s).

Approved by: Hill Zheng Date Oct. 13, 2023

Hill Zheng
Technical Manager

No. S637431792

Test Report

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Conclusion

Tested Sample	According to standard/directive	Result
Submitted Sample	RoHS Directive 2011/65/EU with amendment (EU) 2015/863	PASS

****

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

Test Report

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	Refer to IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	Refer to IEC 62321-5:2013	ICP-OES
Mercury (Hg)	Refer to IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
Polybrominated Biphenyls (PBBs)*	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)*	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)*	IEC 62321-8:2017	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Perfluorooctanoic Acid(PFOA)*	CEN/TS 15968:2010	LC-MS-MS
Perfluorooctane Sulfonates(PFOS)*	CEN/TS 15968:2010	LC-MS-MS
Beryllium(Be)	Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES
Antimony(Sb)	Refer to US EPA 3050B:1996 & US EPA 6010D:2018	ICP-OES

Test Report

Test Result(s)

Tested Item(s)	Result	MDL	Limit
	002		
Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.▼	0.10 μg/cm² (LOQ)	1000 mg/kg

Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Biphenyls (PBBs)*			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Diphenyl Ethers (PBDEs)*			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

Test Report

Tested Item(s)	Result	MDL	Limit
	002		
Phthalates (DBP, BBP, DEHP, DIBP)*			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL
	001	
Fluorine (F)	N.D.	10 mg/kg
Chlorine (Cl)	N.D.	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
	001	
Perfluorooctane Sulfonates(PFOS)*	N.D.	0.010 mg/kg
Perfluorooctanoic Acid(PFOA)*	N.D.	0.010 mg/kg
Antimony(Sb)	N.D.	5 mg/kg
Beryllium(Be)	N.D.	2 mg/kg

Sample/Part Description

No.	CTI Sample ID	Description
1	001	Metal with silvery plating
2	002	Silvery plating

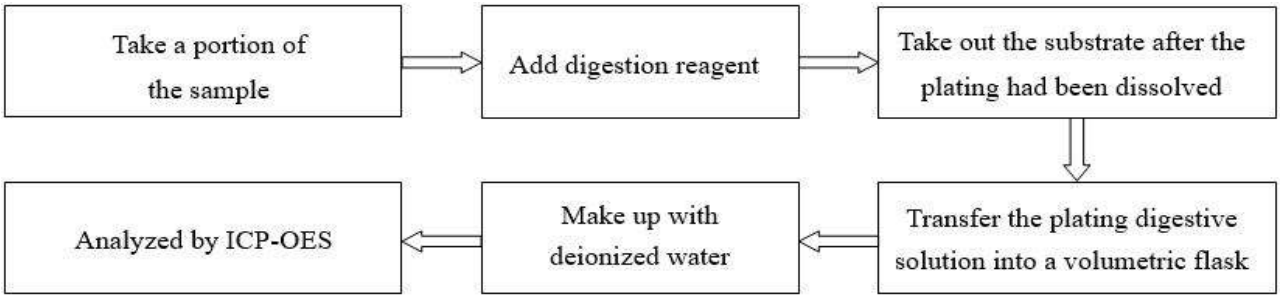
Test Report

Remark: -MDL = Method Detection Limit
-N.D. = Not Detected (<MDL or LOQ)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%
-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. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

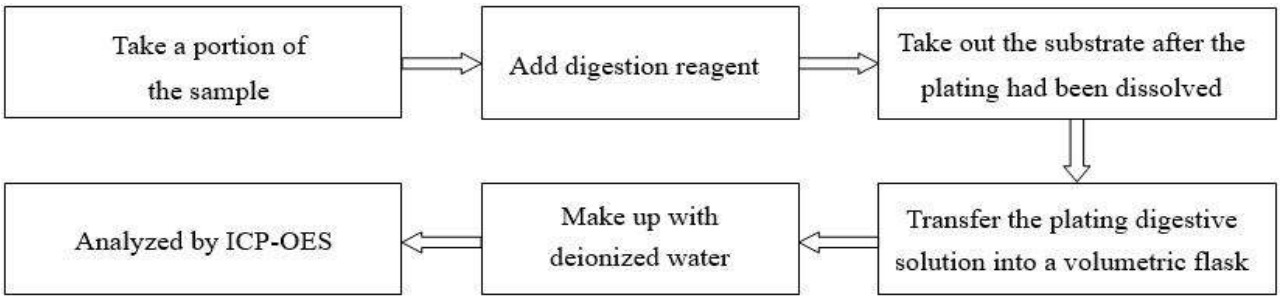
Note: **-*Indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.**

Test Process

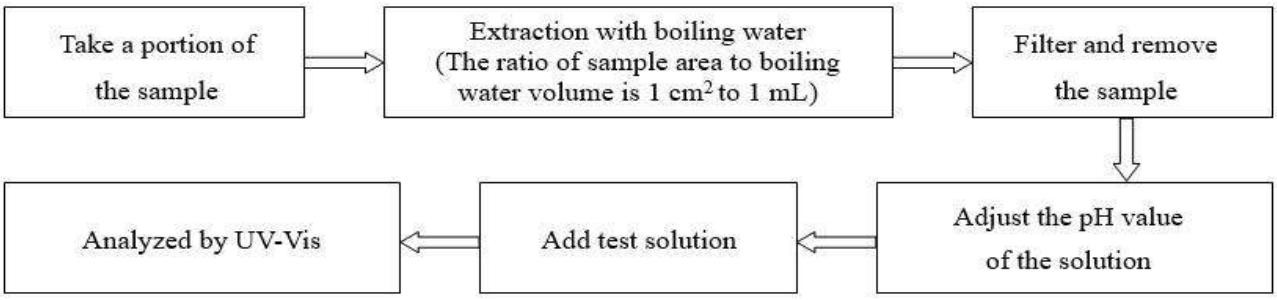
1. Lead (Pb), Cadmium (Cd)



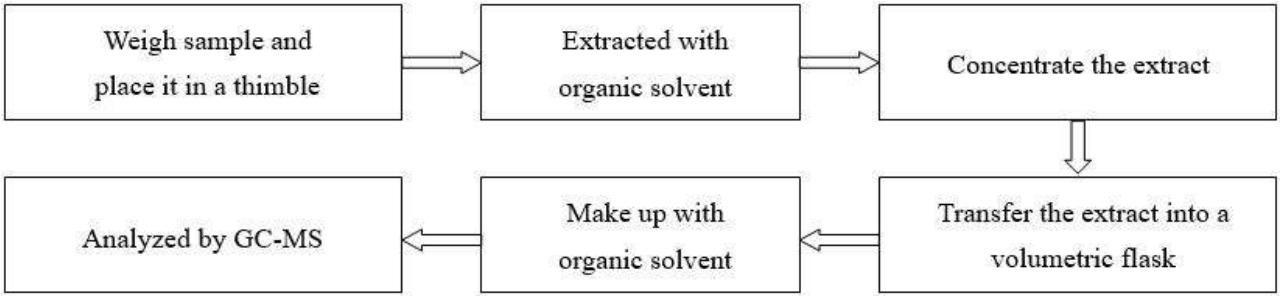
2. Mercury (Hg)



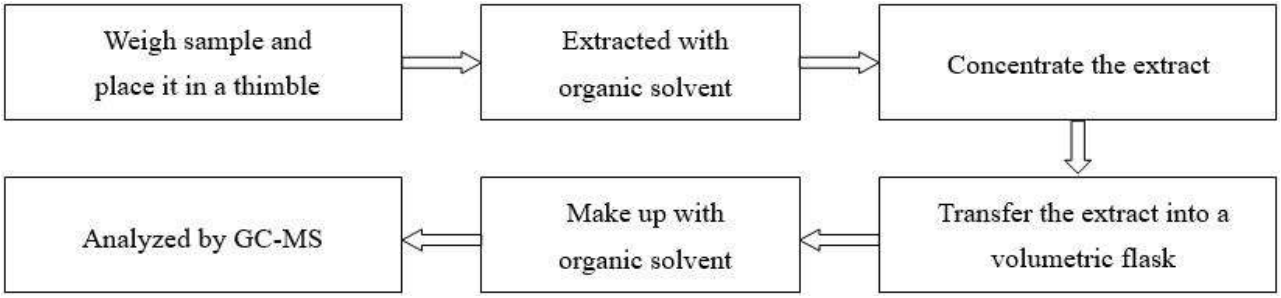
3. Hexavalent Chromium (Cr(VI))



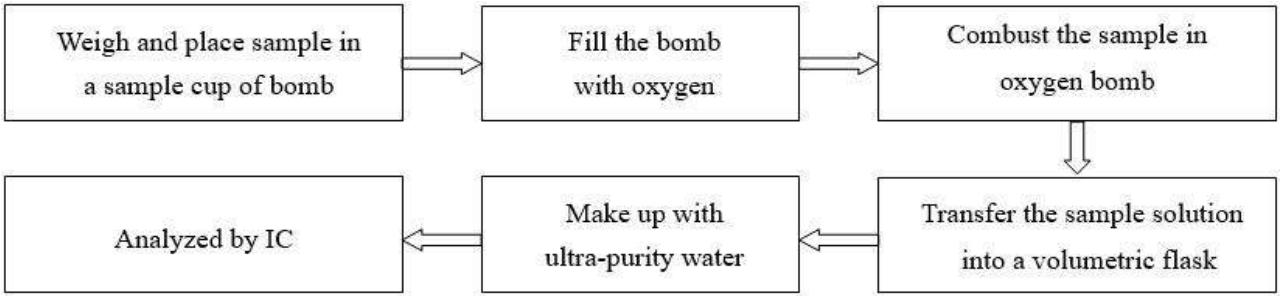
4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



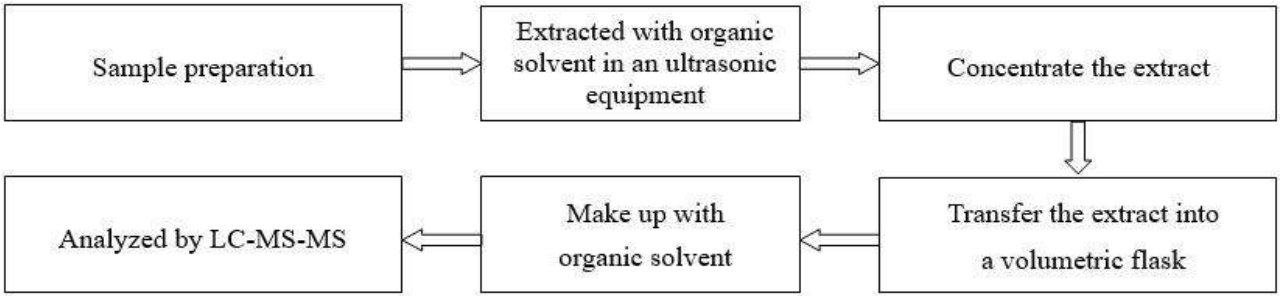
5. Phthalates (DBP, BBP, DEHP, DIBP)



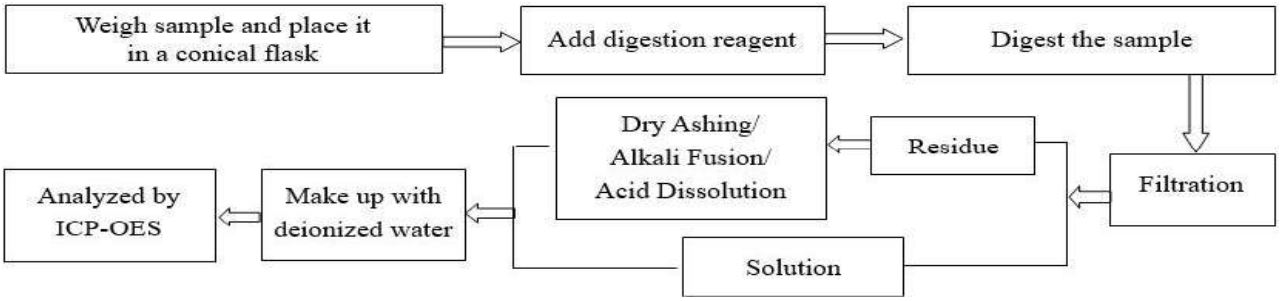
6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



7. Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)

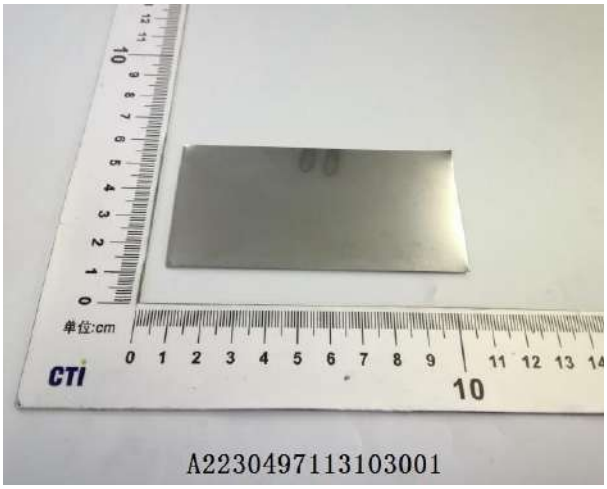


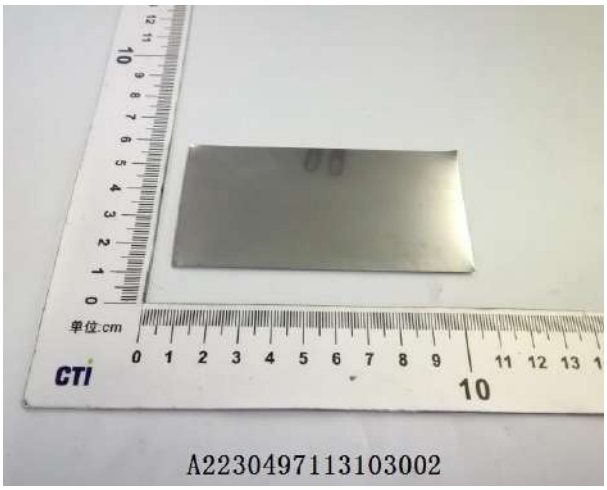
8. Antimony(Sb), Beryllium(Be)



Test Report

Photo(s) of the sample(s)





Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 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. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of Report ***

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

MSDS 物质安全环保书

一.制造或供应商资料:

制造或供应商名称：东莞市乐诚金属材料有限公司
地址：东莞市虎门镇南栅上南路 9 号（近连升路红绿灯处）
紧急联系人：0755-27074014 张驰

二.供物料名称及主要成份和用途

物料名称:梅花镍（用于连续端子镀镍）		化学文摘社登记号 CAS. NO
物质成份	含量	
Ni	99.99%	7440-02-0
Cu	0.0055%	7440-50-8
Fe	0.0045%	7439-89-6

三.相关危害性概述:

主要的危害状况	侵入途径：经口或皮肤吸收 健康危害：可引起镍皮炎，又称镍“痒疹”。皮肤剧痒，后出现丘疹、疱疹及红斑，重者化脓、溃烂。长期吸入镍粉可致呼吸道刺激、慢性鼻炎，甚至发生鼻中隔穿孔。尚可引起变态反应性肺炎、支气管炎、哮喘等。
	环境影响：对环境有危害，对水体可造成污染.
	特殊危害:：本品属自燃物品，具刺激性，接触可引起皮炎，奇痒。
主要症状：(空白)	

四.急救方法:

不同危害之急救方法: 吸入：迅速脱离现场至空气新鲜处，保持呼吸道通畅。如呼吸困难，给输氧。如呼吸停止，立即进行人工呼吸。就医。
皮肤接触：用大量流动清水冲洗至少 15 分钟，并用肥皂清洗。 食入：饮足量温水，诱道吐出及时就医。
主要的危害状况：(同三,相关危害状况资料之健康危害状况)
对急救人员之防护：(空白)
对医生之提示：(空白)

五.灭火措施:

危险特性：其粉体化学活性较高，暴露在空气中会发生氧化反应，甚至自燃。遇强酸反应，放出氢气。粉尘可燃，能与空气形成爆炸性混合物。 适用灭火器：化学干粉、砂土。
灭火时可能碰到的特殊状况：(空白)
消防人员之特殊防护设备：消防人员必须佩戴过滤式防毒面具(全面罩)或隔离式呼吸器、穿全身防火防毒服，在上风向灭火.

六.泄漏处理方法:

应急处理：隔离泄漏污染区，限制出入。切断火源。建议应急处理人员戴自给正压式呼吸器，穿防毒服。不要直接接触泄漏物。使用无火花工具收集于干燥、洁净、有盖的容器中。转移回收。

七.安全处理与储存方法:

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

处理注意事项：密闭操作，局部排风。操作人员必须经过专门培训，严格遵守操作规程。建议操作人员佩戴自吸过滤式防尘口罩，戴化学安全防护眼镜，穿透气型防毒服，戴防化学品手套。远离火种、热源，工作场所严禁吸烟。使用防爆型的通风系统和设备。避免与氧化剂、酸类接触。搬运时要轻装轻卸，防止包装及容器损坏。配备相应品种和数量的消防器材及泄漏应急处理设备。倒空的容器可能残留有害物。
储存：储存于阴凉、通风的库房。远离火种、热源。包装要求密封，不可与空气接触。应与氧化剂、酸类等分开存放，切忌混储。采用防爆型照明、通风设施。禁止使用易产生火花的机械设备和工具。储区应备有合适的材料收容泄漏物。

八 暴露预防措施:

工程控制：密闭操作，局部排风。
控制参数：暂未制定标准。
个人防护设备 呼吸防护：可能接触其粉尘时，佩戴自吸过滤式防尘口罩。 眼部防护：戴化学安全防护眼镜。
其他防护：工作完毕，淋浴更衣。注意个人清洁卫生。工作时皮肤划伤应及时处理。

九 物理及化学物特征:

物质状态：坚硬金属	形状：固体
颜色：银白色	气味：无
PH 值：	沸点：2732 度
分解温度：	熔点：1453 度
自然温度：	爆炸界限：
蒸气压：0.13(1810 度)	蒸气密度 (空气=1):
挥发速率： (乙酸丁酯=1):无	熔解性：不溶于浓硝酸，溶于稀硝酸。
比重：	主要用途：用于电子管材料、加氢催化剂及镍盐制造。

十 稳性及反应活性:

安定性：酸性条件下有分解的倾向
特殊状况下可能之危害： (空白)
应避免之状况：(空白)
应避免之物质：酸类、强氧化剂、硫。
危害分解物：(空白)

十一.毒性资料:

急毒性：(空白)
致敏感性： (空白)
慢毒性或长期毒性：(空白)
特殊效应： (空白)

十二.生态资料:

环境影响：该物质对环境有危害.

十三.废弃物处置方法:

首顾表面处理（深圳）有限公司

SO GOOD CO., LTD

地址:深圳市宝安区松岗江边创业 2 路 E-mail:PE05@sogoodsz.com

电话: 0755-27074014 传真: 0755-27074559

废弃物处置方法：根据国家和地方有关法的要求处置。或与厂商或制造商联系，确定处理方法。

十四.运送及交货规定

包装方法：采用塑料袋外套金属桶。
特殊运送方法及注意事项：无特殊规定.

十五.法规资料:

适用法规:化学危险物品安全管理条例（1987 年 2 月 17 日国务院发布）。化学危险物品安全管理条例实施细侧（化劳发{1992}677 号，工作场所安全使用化学品规定{1996}劳部发 423 号）等法规，针对化学危险品的安全使用、生产、储存、运输、装卸等方面均作了相应的规定.

十六.其他信息

其他信息无

首顾表面处理(深圳)有限公司

2021.4.20

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 14001:2015

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：
121506003

首次认证日期：
2015年07月20日

认证决定日期：
2024年07月14日

签发日期：
2024年07月14日

有效期至：
2027年07月19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。

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 14001:2015

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:
121506003

Initial Certification Date:
20 July 2015

Date of Certification Decision:
14 July 2024

Issuing Date:
14 July 2024

Valid Until:
19 July 2027

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.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organisation maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at certificate.validation@intertek.com or by scanning the code to the right with a smartphone. The certificate remains the property of Intertek, to whom it must be returned upon request.
The annual validity of the certificate can also be checked through the website http://www.cnca.gov.cn of CNCA in China.