



Test Report

Report No. A2180252400101001

Applicant KINGFA SCI. & TECH.CO., LTD

Address NO.33KEFENG ROAD, SCIENCE CITY, GUANGZHOU HI-TECHINDUSTRIAL DEVELOPMENT ZONE, GUANGZHOU

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

Sample Name Vicnyl R630NH
Color 黑色
Sample Received Date Dec. 20, 2018
Testing Period Dec. 20, 2018 to Dec. 24, 2018

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), Antimony(Sb), Hexabromocyclododecane (HBCDD) 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.



Tested by Yu Gu
Approved by Hill Zheng
Hill Zheng
Technical Manager

Reviewed by Jori Xia
Date Dec. 24, 2018

No. R187211357

Centre Testing International Group Co., Ltd.

CTI Building, No.4, Liuxian 3rd road, Xin'an Street, Bao'an District, Shenzhen, P.R.China

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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
Antimony(Sb)	Refer to US EPA 3052:1996 & US EPA 6010D:2014	ICP-OES
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2017	GC-MS

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Test Result(s)

Tested Item(s)	Result	MDL	Limit
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
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
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	

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Test Result(s)

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

Tested Sample/Part Description Black plastic grains

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

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- 1000 mg/kg = 0.1%

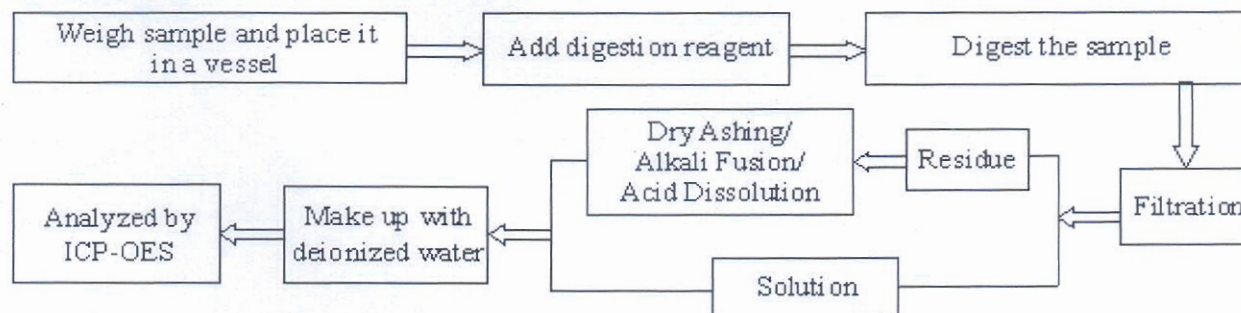
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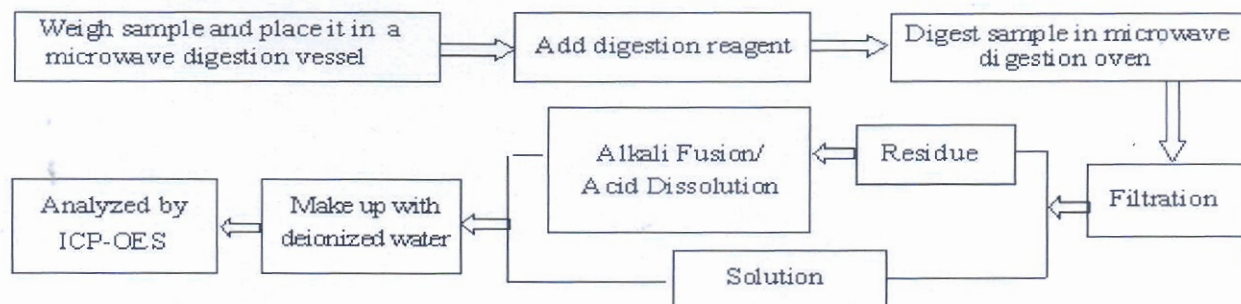
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Test Process

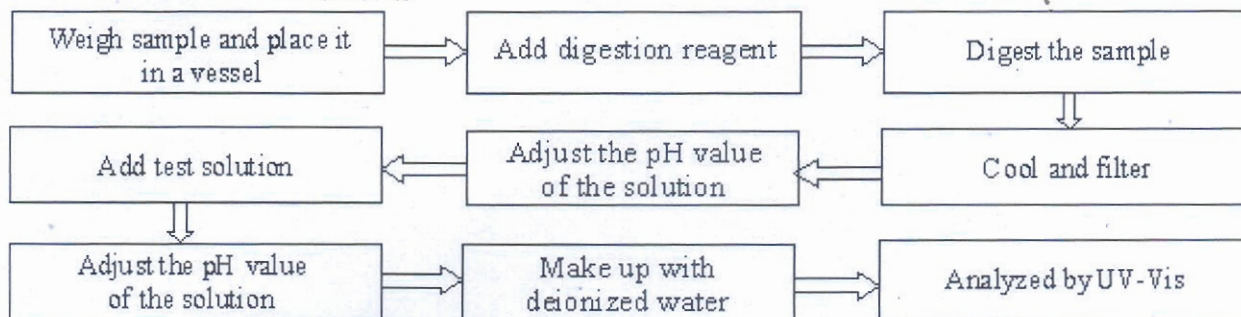
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



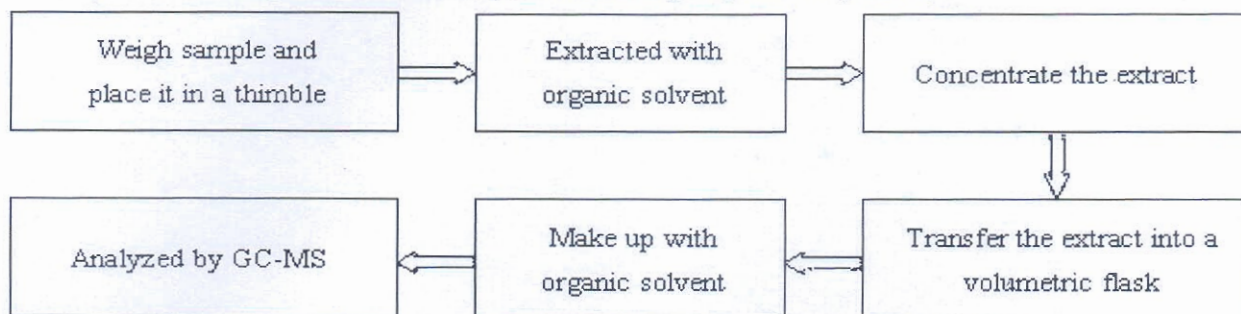
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))



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

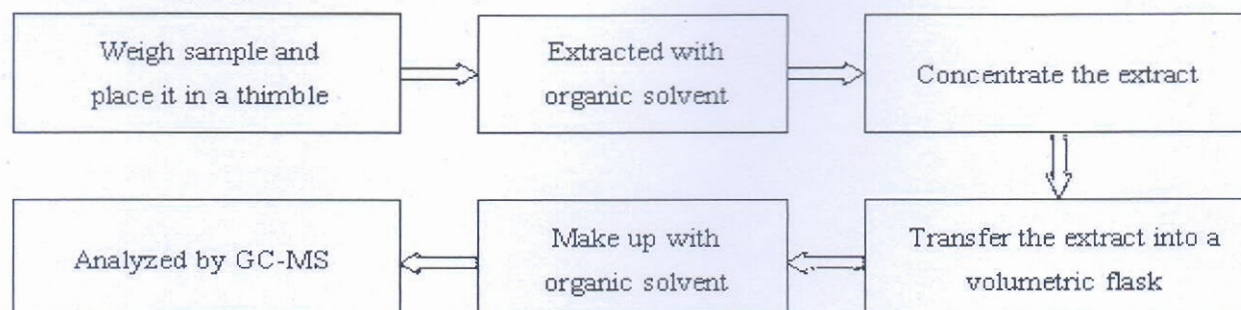


Test Report

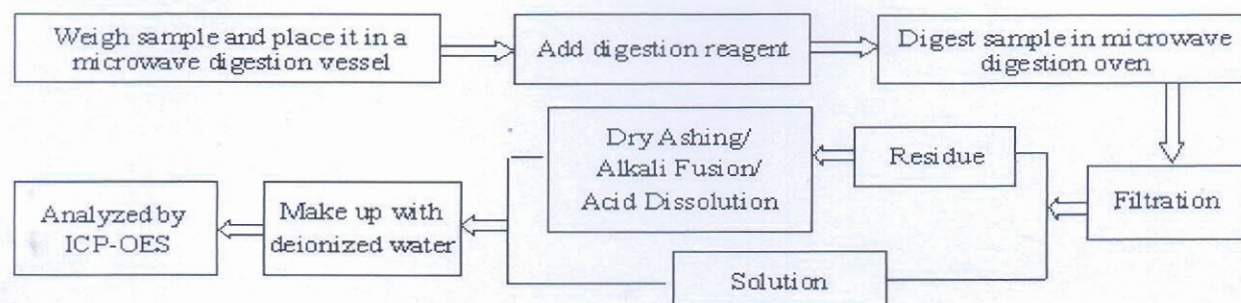
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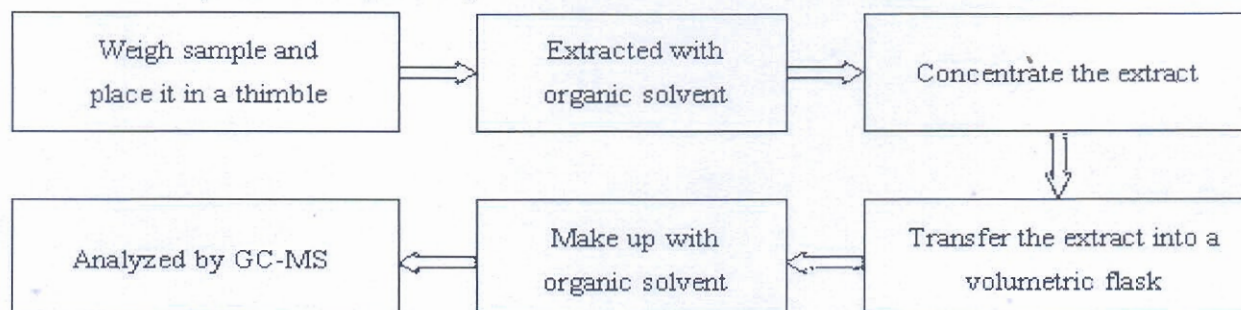
5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Antimony(Sb)



7. Hexabromocyclododecane (HBCDD)



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Photo(s) of the sample(s)



*** End of report ***

Statement:

1. This report is considered invalidated without approval signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client 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;
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Report No. A2180203536101006

Applicant KINGFA SCI. & TECH.CO., LTD

Address NO.33KEFENG ROAD, SCIENCE CITY, GUANGZHOU HI-TECHINDUSTRIAL
DEVELOPMENT ZONE, GUANGZHOU

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

Sample Name Vicnyl R630NH

Color 黑色

Sample Received Date Oct. 26, 2018

Testing Period Oct. 26, 2018 to Oct. 30, 2018

Test Requested As specified by client, to test Chlorine (Cl), Bromine (Br) in the submitted sample(s).

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

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



Tested by

Chas Cai

Approved by

Hill Zheng

Hill Zheng
Technical Manager

Reviewed by

Cathy Huang

Date

Oct. 30, 2018

No. R177733485

Centre Testing International Group Co., Ltd.

CTI Building, No.4, Liuxian 3rd road, Xin'an Street, Bao'an District, Shenzhen, P.R.China

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Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC

Test Result(s)

Tested Item(s)	Result	MDL
Chlorine(Cl)	N.D.	10 mg/kg
Bromine(Br)	N.D.	10 mg/kg

Tested Sample/Part Description Black plastic grains

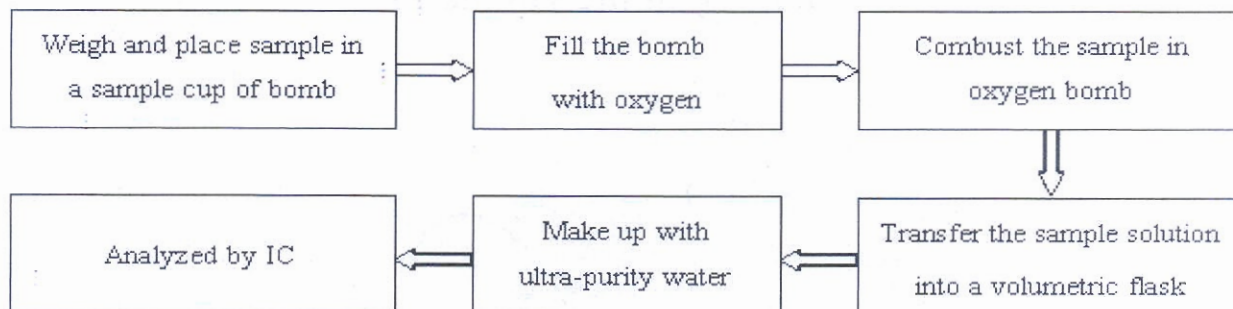
Remark: -MDL = Method Detection Limit
 -N.D. = Not Detected (<MDL)
 -mg/kg = ppm = parts per million

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Test Process



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Photo(s) of the sample(s)



*** End of report ***

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MATERIAL SAFETY DATA SHEET*According to 91/155/EC***Product:**
Msds No.: 09N0009**Vicnvl R630NH**
Version 1.0**Page 1 of 3**
Revision Date: 2009/07/24**01- IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND
THE COMPANY/UNDERTAKING**

NAME OF THE PREPARATION	Vicnvl R630NH
SUPPLIER	KINGFA SCI.&TECH.CO.,LTD
ADDRESS	Gaotang Industry Zone, Tianhe District, Guangzhou, China, 510520
TELEPHONE/FAX	+86-20-8703 7818 /+86-20-87036219
EMERGENCY TELEPHONE NO.	+86-20-8703 6220

02-COMPOSITION/INFORMATION ON INGREDIENTS

POLYAMIDE BASED ON 10T	>48%
FLAME RETARDANT	<20%
GLASS FIBER	30%
PROCESSING ADDITIVES	<2%

03-HAZARDS IDENTIFICATION

HEALTH EFFECTS	Limited evidence of a carcinogenic effect Prolonged and /or repeated contacts: Risk of skin sensitization When handled at high temperatures, can cause serious burns
PHYSICAL AND CHEMICAL HAZARDS	Dust can form explosive mixture with air At high temperature thermal decomposition giving flammable and harmful products, formation of toxic products through combustion
SPECIFIC HAZARDS/EC	Limited evidence of a carcinogenic effect

04-FIRST AID MEASURES

EYE CONTACT	Cool eyes rapidly with plenty of cold water after contact with molten polymer and seek medical advice
SKIN CONTACT	Cool skin rapidly with plenty of cold water after contact with molten polymer and seek medical advice
INGESTION	If vomiting occurs, lower the head to ease vomiting and seek medical advice
INHALATION	Inhalation of vapors due to thermal decomposition: remove to fresh air, oxygen or artificial respiration if needed

05-FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES	Flash point: Not determined Auto ignition temperature: Not determined
FLAMMABILITY	UL 94 V-0
EXTINGUISHING MEDIA	Water spray, Dry powder, Carbon dioxide (CO ₂)
SPECIFIC HAZARDS	Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion

MATERIAL SAFETY DATA SHEET

According to 91/155/EC

Product:
Msds No.: 09N0009

Vicnvl R630NH
Version 1.0

Page 2 of 3
Revision Date: 2009/07/24

FIRE FIGHTING INSTRUCTIONS may form: Sulfur Oxides, Carbonyl Sulfide, Carbon Oxides
Keep people away, isolate fire area and deny unnecessary entry
Cool surroundings with water to localize fire zone
Hand held carbon dioxide or dry chemical water to cool and prevent re-ignition

06-ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION Do not breathe vapors/dust
Sweep up to prevent hazard slipping

ENVIRONMENTAL PROTECTION Do not release into the environment
Do not let the product enter into drains

METHODS FOR CLEANING UP Recover the product
Recycle or incinerate at an approved waste disposal site

07-HANDLING AND STORAGE

HANDLING Prevent from fire around handling area.
Avoid accumulation of static charges during transfers in metallic systems, wear a mask to avoid dust formation

STORAGE Keep the materials at a cool dry place
Protect from direct sunlight, rain and violent temperature fluctuation. Fire is inhibited around storage area

08-EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS Ensure ventilation of work areas and extraction of dust or vapors likely to be given off during conversion operations

EXPOSURE LIMIT Not determined

PERSONAL PROTECTION EQUIPMENT

Eye protection Wear safety glasses for general purpose
Wear chemical goggles for cleaning molding machines

Hand protection Wear gloves (product handled in molten state)

Skin and body protection Wear protective clothing (product handled in molten state)

Respiratory protection In case of dust formation, wear a dust mask
In case of insufficient ventilation, wear suitable respiratory equipment

09-PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Solid (pellets)

COLOR Opaque

ODOUR Very faint

MELTING POINT 295°C

BOILING POINT/RANGE Not applicable

VAPOUR PRESSURE Not applicable

SOLUBILITY IN WATER Not soluble

MATERIAL SAFETY DATA SHEET*According to 91/155/EC***Product:**
Msd No.: 09N0009**Vicnvl R630NH**
Version 1.0**Page 3 of 3**
Revision Date: 2009/07/24

SPECIFIC GRAVITY >1.0

10-STABILITY AND REACTIVITY

STABILITY Combustible gases are released at the temperature over 400°C

INCOMPATIBILITY Strong oxidizers

HAZARDOUS DECOMPOSITION Carbonyl Sulfide formed when burned. Sulfur and carbon oxides

PRODUCTS formed when burned

HAZARDOUS Will not occur

POLYMERIZATION

11-TOXICOLOGICAL INFORMATION

See section 3 for potential health effects. For detailed toxicological data, write or call the address or emergency number shown in section 1

12-ECOLOGICAL INFORMATION

To avoid being taken by ocean species or birds

To inhibit disposal of the waste to the ocean and water sources

13-DISPOSAL CONSIDERATIONS

Controlled incineration or landfill according to local, state or national laws and regulations concerning health and pollution

The environmental fate of this material is not available.

14-TRANSPORT INFORMATION

ADR/RID Not regulated

AND/ADNR Not regulated

IMDG Not regulated

IATA Not regulated

Consult KINGFA's safety department for any further information

15-REGULATORY INFORMATION

WEEE/ROHS DIRECTIVE CONFORMS

INVENTORIES EINECS (EU): Conforms

TSCA (USA): Conforms

DSL (Canada): Conforms

AICS (Australia): Conforms

ECL (Korea): Conforms

SAFETY DATA SHEETS D.91/155/EEC amended by D.93/112/EEC and D.2001/58/CE

16-OTHER INFORMATION

This message is based on our present knowledge. However this will not constitute a guarantee for any specific products features and should not establish a legally valid contractual relationship.

Department issuing MSDS: KINGFA SCI.&TECH. CO., LTD
TEL: +86-20-8703 7818

KINGFA SCI & TECH CO LTD

GAO TANG INDUSTRY ZONE, KEMULANG, TIANHE, GUANGZHOU GUANGDONG 510520 CN

Vicnyl R6(q)NH

Polyphthalamide (PPA), furnished as pellets

	Min Thk	Flame			RTI	RTI	RTI
Color	(mm)	Class	HWI	HAI	Elec	Imp	Str
ALL	0.4-0.44	V-0	4	0	50	50	50

Comparative Tracking Index (CTI): -

Dimensional Stability (%): -

High-Voltage Arc Tracking Rate (HVTR): -

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

Dielectric Strength (kV/mm): -

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

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

Report Date: 2008-10-17

Last Revised: 2009-03-24

Underwriters Laboratories Inc®



Vicnyl R630NH

Flame Retardant & Glass Fiber Reinforced High Performance Nylon

FEATURES	APPLICATIONS
• Free of halogen & red phosphorus • Excellent dimensional stability • Excellent electrical properties • Low smoke density • Good mechanical properties	• Injection molding • Connectors • Other E&E articles

Properties ^[1]	Test Methods	Test Conditions	S.I. Units	Typical Values ^[2]
Mechanical				
Tensile Strength	ISO 527-2	10mm/min	MPa	130
Elongation at break	ISO 527-2	10mm/min	%	2.5
Flexural Strength	ISO 178	2mm/min	MPa	190
Flexural Modulus	ISO 178	2mm/min	MPa	9000
Impact Strength, IZOD notched	ISO 180/1A	23°C	KJ/m ²	8.5
Impact Strength, IZOD unnotched	ISO 180/1U	23°C	KJ/m ²	45
Thermal				
Melting Temperature, DSC	ISO 3146	--	°C	316
Heat Deflection Temperature	ISO 75-2	1.80MPa	°C	295
Electrical				
Volume Resistivity	IEC 60093	--	Ω·cm	10 ¹⁵
CTI Comparative Tracking Index	IEC 60112	Souliton A	V	600
Others				
Density	ISO 1183	--	g/cm ³	1.41
Glass Fiber Content	ISO 3451/1	--	%	30
Mold Shrinkage	ISO 2577	--	%	0.3/0.9
Water Absorption	ISO 62	23°C/24hr Emersion in water	%	0.2
Flammability	UL 94	0.8~3.2mm	Class	V-0
GWFI	IEC695-2-12	0.8~3.2mm	°C	960

[1] The values of pigmented material may be different.

[2] The listed values are measured by test specification and used for referential purpose only.

Processing Conditions

		Start Point	Range
Melt Temp.		320℃	300~340℃
Barrel Zone Temp.	Rear	290℃	280~300℃
	Center	310℃	300~320℃
	Front	330℃	320~340℃
Mold Temp.		140℃	130~160℃
Processing Temp. Limit		340℃	
Injection Speed		Moderate to high	
Pre-Dry Requirements		120~150℃, 4~6hr	

The data sheet is just for reference. In actual injection process, the molding parameter should be adjusted by construction of mold, shape and size of product, and so on.

SAFETY AND HANDLING CONSIDERATIONS

Material safety data sheets for resins are available from Kingfa Sci. & Tech. Co. and its subsidiaries. MSD sheets are provided to help customers satisfy their own handling, safety, and disposal needs, and those that may be required by locally applicable health and safety regulations.

The following comments are general and apply only to resins as supplied. Various additives and processing aids used in fabrication and other materials used in finishing steps have their own safe use profile and must be investigated separately.

The resins conform to the requirements of Measures for Administration of Pollution Control of Electronic Information Products (China RoHS) and EU RoHS Directive. Representative samples of the resins have been examined to assure that potential trace contamination levels of the substances above are not in excess of the applicable regulations. These resins have a very low degree of toxicity and under normal conditions of use should pose no unusual problems from ingestion, eye, or skin contact. However, caution is advised when handling, storing, using, or disposing of these resins and good housekeeping and controlling of dusts are necessary for safe handling of product. Workers should be protected from the possibility of contact with molten resin during fabrication.

Handling and fabrication of plastic resins can result in the generation of vapors and dusts. Dusts resulting from sawing, filing, and sanding of plastic parts in post-molding operations may cause irritation to eyes and the upper respiratory tract. In dusty atmospheres, use an approved dust respirator.

Good general ventilation of the polymer processing area is recommended. Processing may release fumes which may include polymer fragments and other decomposition products. Fumes can be irritating. At temperatures exceeding melt temperature, polymer fragments can occur. Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles. Use gloves with insulation for thermal protection, when needed.

Kingfa encourages its customers and potential users of Kingfa products to review their applications for such products from the standpoint of human health and environmental quality. To help ensure that Kingfa products are not used in ways for which they were not intended or tested, Kingfa personnel will assist customers in dealing with ecological and product safety considerations. Your Kingfa sales representative can arrange the proper contacts.

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Kingfa Sci. & Tech. Co., LTD. R&D department Gaotang Industry Zone, Kemulang, Tianhe, Guangzhou, China 510520	Client Service Information: Tel: 86-20-87037818 86-20-87037832 Fax: 86-20-87036219	金发科技 KINGFA®
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Test Report

No. XMNEC1800529703

Date: 16 May 2018

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FUJIAN ZIJIN COPPER CO.,LTD

NAN GANG DEVELOPMENT PARK SHANGHANG FUJIAN

The following sample(s) was/were submitted and identified on behalf of the clients as : BRONZE: C5210

SGS Job No. : 18985413 - XM

Date of Sample Received : 10 May 2018

Testing Period : 10 May 2018 - 16 May 2018

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

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

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

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

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

Sunny Lu

Sunny Lu
Approved Signatory



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

SGS-CSTC Standards Technical Services Co., Ltd.
Xiamen Branch Testing Laboratory

No. 31 Xianghong Road, Xiang'An Torch Industrial Zone, Xiamen, Fujian Province, China 361101 t (86-592) 5766995 f (86-592) 5766999 www.sgsgroup.com.cn
中国·福建·厦门市火炬(翔安)产业区翔虹路31号 邮编: 361101 t (86-592) 5766995 f (86-592) 5766999 e sgs.china@sgs.com

Test Report

No. XMNEC1800529703

Date: 16 May 2018

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	XMN18-005297.002	Copper-colored metal sheet

Remarks :

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

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

Test Method : With reference to IEC 62321-4:2013+A1:2017 , IEC 62321-5:2013, IEC 62321-7-1:2015 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	002
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	12
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm ²	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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Test Report

No. XMNEC1800529703

Date: 16 May 2018

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25
- (2) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI
b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.

Halogen

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

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Notes :

- (1) The test was subcontracted to SGS Guangzhou chemical lab.

Elementary Analysis



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Test Report

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Date: 16 May 2018

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Test Method : SGS In-house method (GZTC CHEM-TOP-009-01, with reference to US EPA Method 3050B: 1996), analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	002
Beryllium (Be)	mg/kg	5	ND
Antimony (Sb)	mg/kg	10	ND
Arsenic (As)	mg/kg	10	22

Notes :

- (1) The test was subcontracted to SGS Guangzhou chemical lab.



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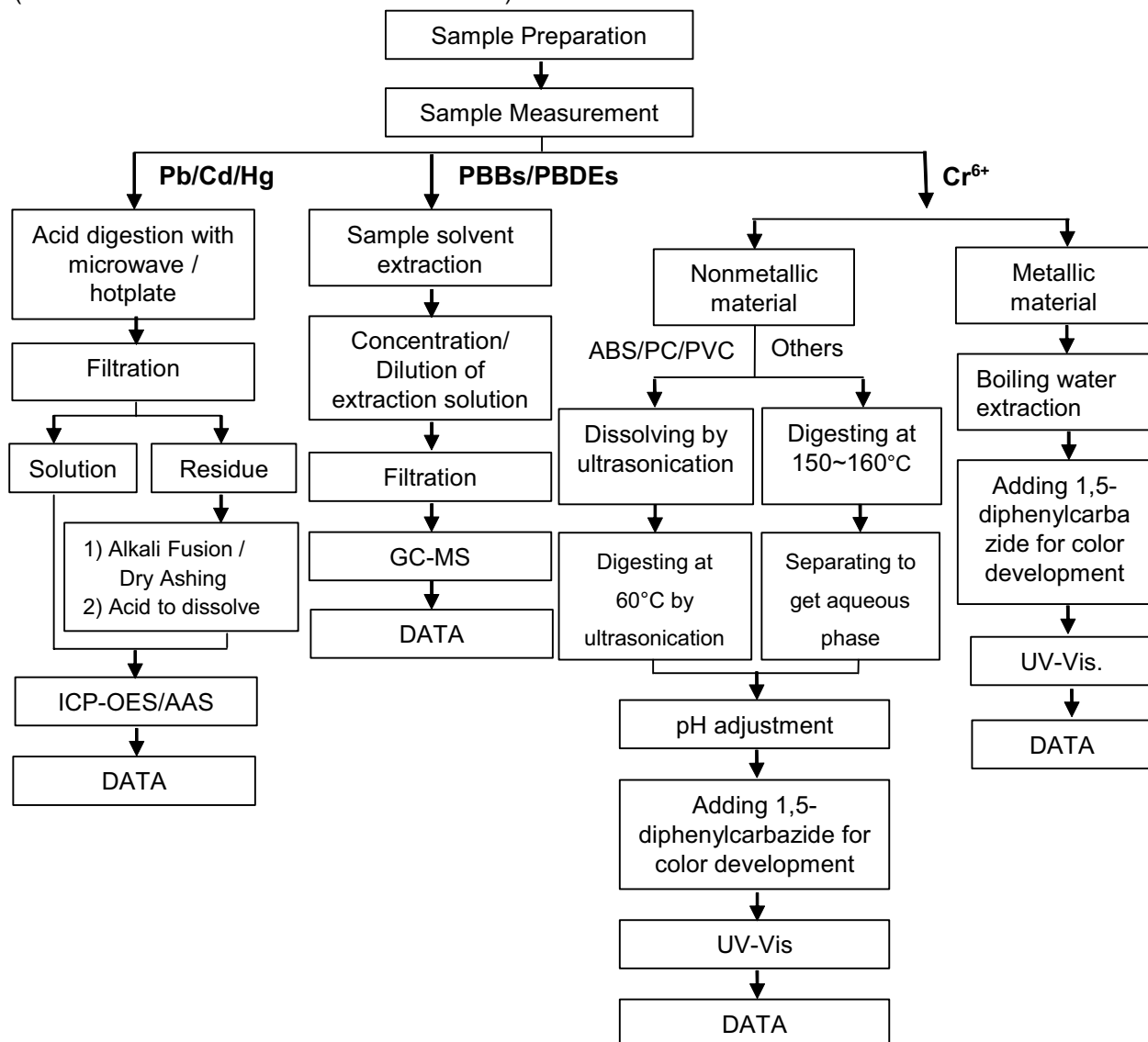
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ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

- 1) Name of the person who made testing: Holly Chen
- 2) Name of the person in charge of testing: Dannie Nie
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).



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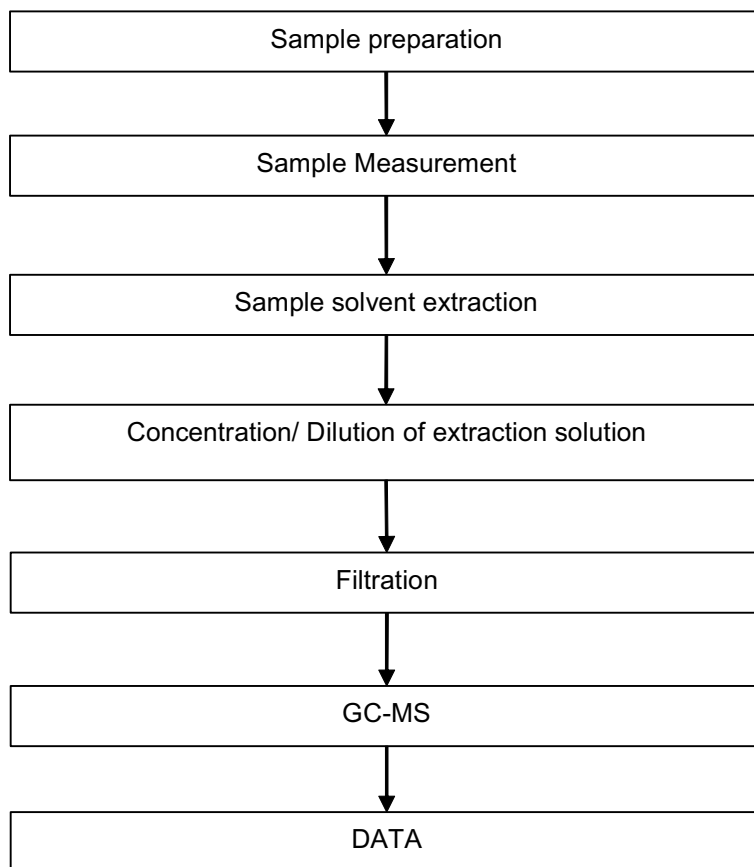
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ATTACHMENTS

Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Holly Chen
- 2) Name of the person in charge of testing: Dannie Nie



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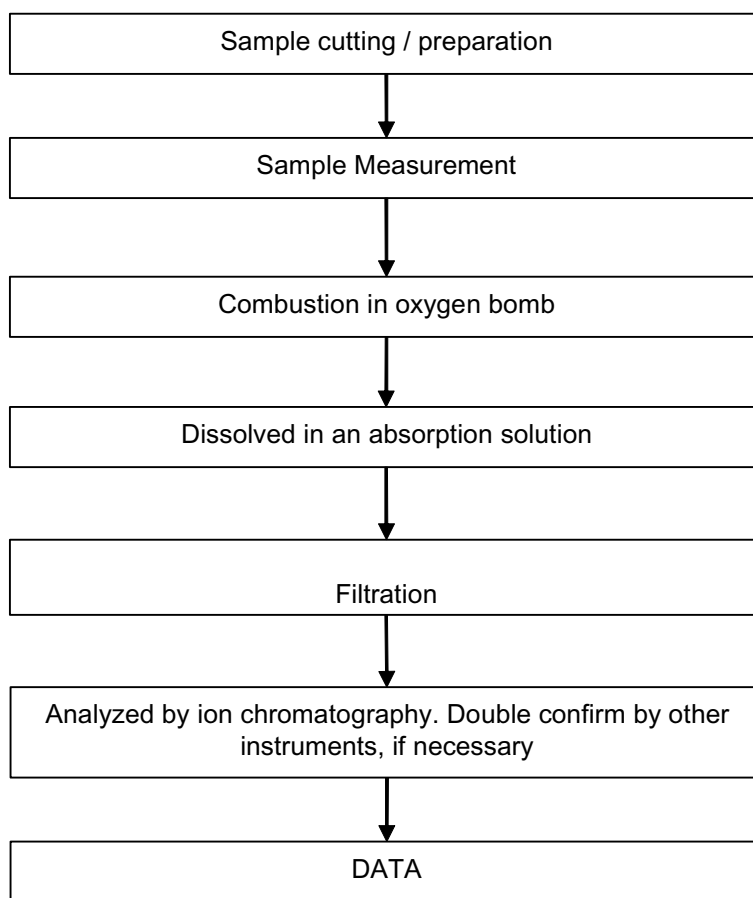
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ATTACHMENTS

Halogen Testing Flow Chart

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



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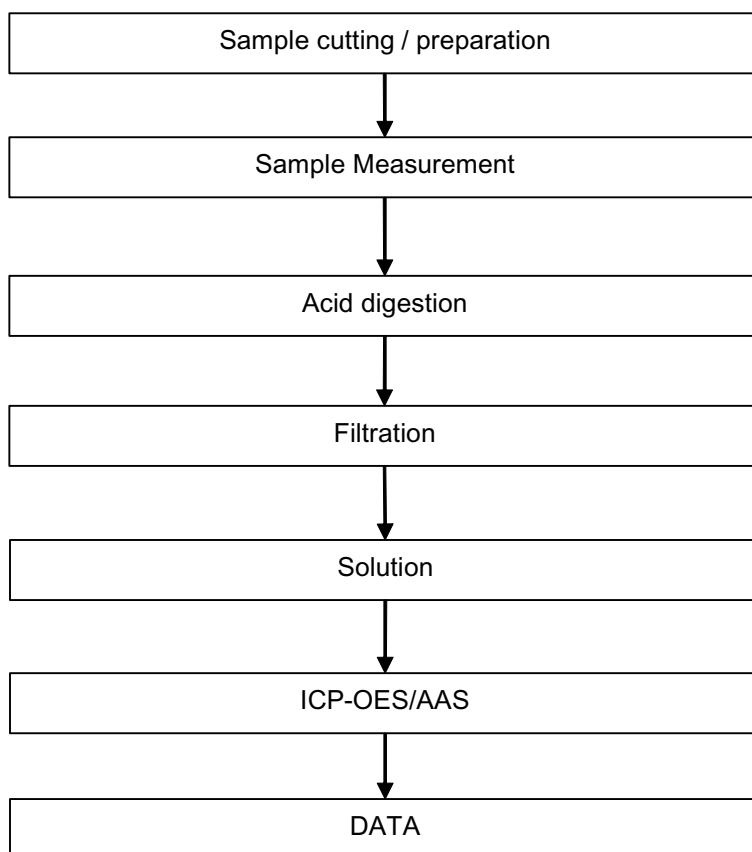
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ATTACHMENTS

Elementary Testing Flow Chart

- 1) Name of the person who made testing: Edith Zhang
- 2) Name of the person in charge of testing: Bella Wang



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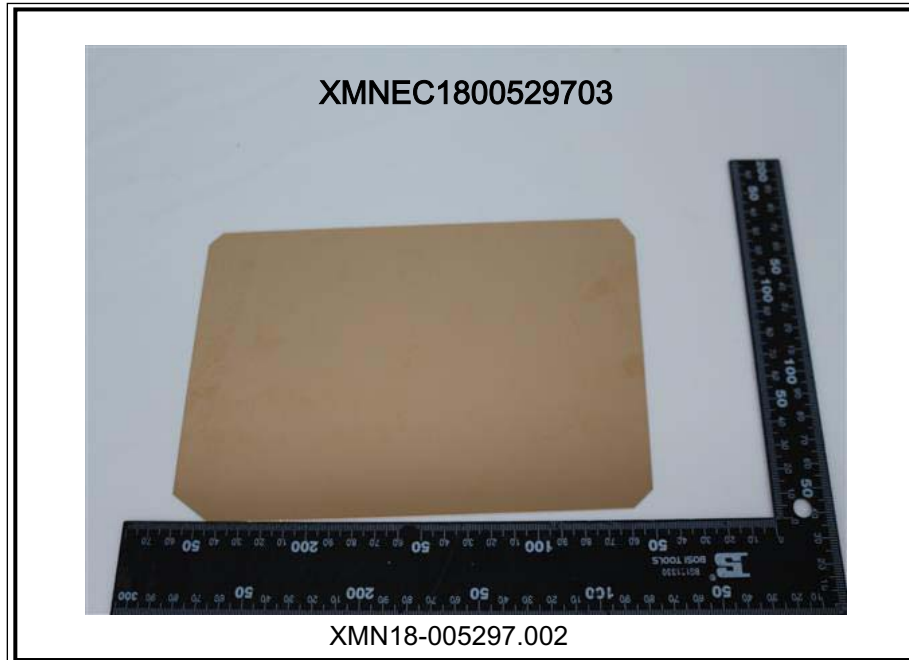
Test Report

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Date: 16 May 2018

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Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***



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Test Report

No. CANEC1803585406

Date: 12 Mar 2018

Page 1 of 4

SHENZHEN CITY SHUN YICK FUNG INDUSTRIAL CO.,LTD.(A2)

TWO FLOOR A BUILDING SHUN YI FENG 1# SIX INDUSTRIAL ROADRIVERSIDE COMMUNITY
SONGGANG STREET BAOAN DISTRICT SHENZHEN CITY

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

SGS Job No. : CP18-008711 - SZ

Client Ref. Info. : NI

Date of Sample Received : 06 Mar 2018

Testing Period : 06 Mar 2018 - 12 Mar 2018

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

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

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

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

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

Zmguan

Zm guan
Approved Signatory



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

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Test Report

No. CANEC1803585406

Date: 12 Mar 2018

Page 2 of 4

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN18-035854.004	Silvery plated metal

Remarks :

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

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

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis .

Test Item(s)	Limit	Unit	MDL	004
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	65
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm ²	0.10	ND

Notes :

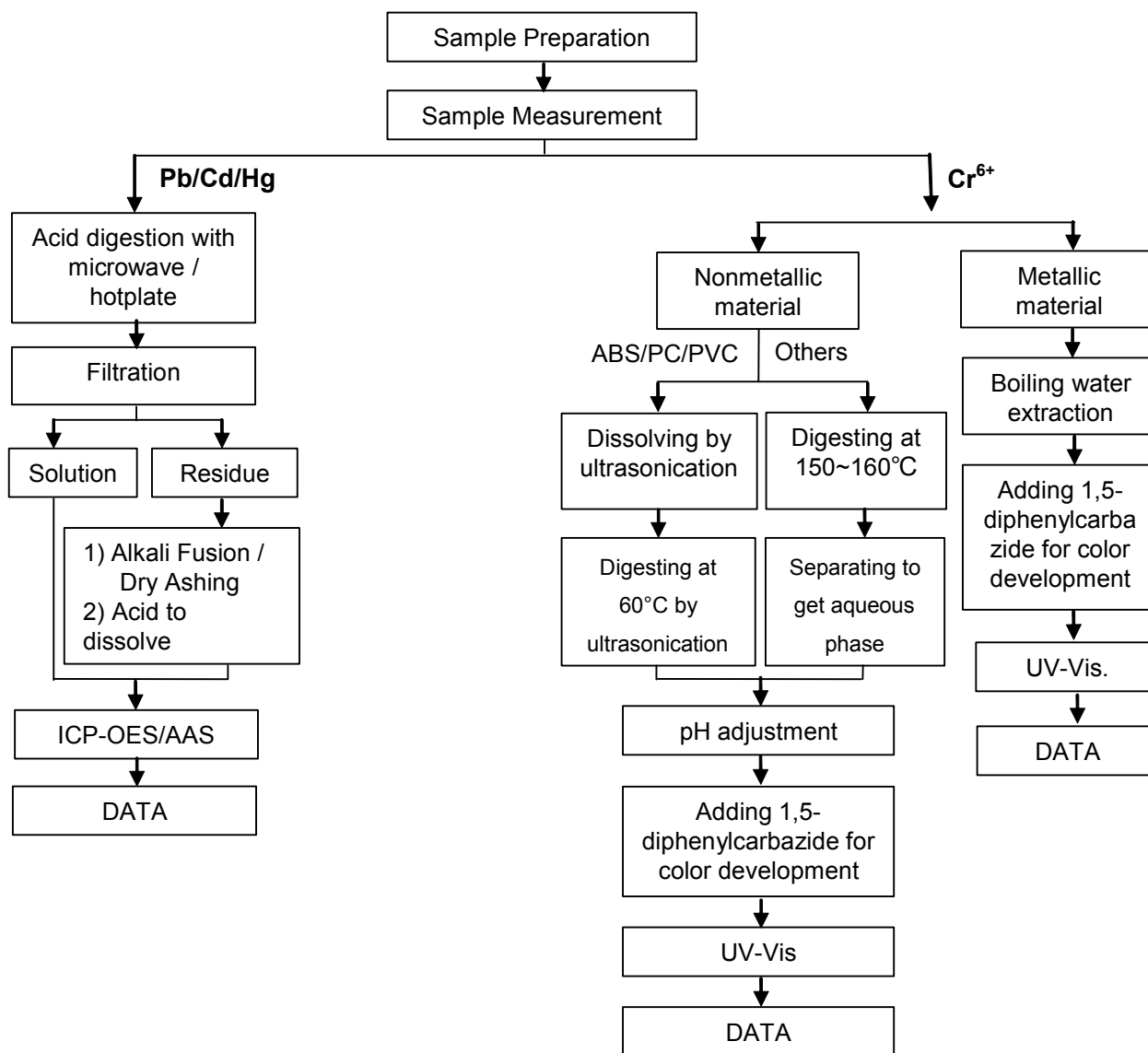
- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25
- (2) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI
b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.



ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺ Testing Flow Chart

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



Test Report

No. CANEC1803585404

Date: 12 Mar 2018

Page 1 of 4

SHENZHEN CITY SHUN YICK FUNG INDUSTRIAL CO.,LTD.(A2)

TWO FLOOR A BUILDING SHUN YI FENG 1# SIX INDUSTRIAL ROADRIVERSIDE COMMUNITY
SONGGANG STREET BAOAN DISTRICT SHENZHEN CITY

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

SGS Job No. : CP18-008711 - SZ

Client Ref. Info. : AU

Date of Sample Received : 06 Mar 2018

Testing Period : 06 Mar 2018 - 12 Mar 2018

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

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

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

Conclusion : Based on the performed tests on selected part of submitted sample(s), the results of Lead,Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

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

Zmguan

Zm guan
Approved Signatory



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

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Test Report

No. CANEC1803585404

Date: 12 Mar 2018

Page 2 of 4

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN18-035854.003	Golden plated metal

Remarks :

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

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

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis .

Test Item(s)	Limit	Unit	MDL	003
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	38
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm ²	0.10	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25
- (2) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI
b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.



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

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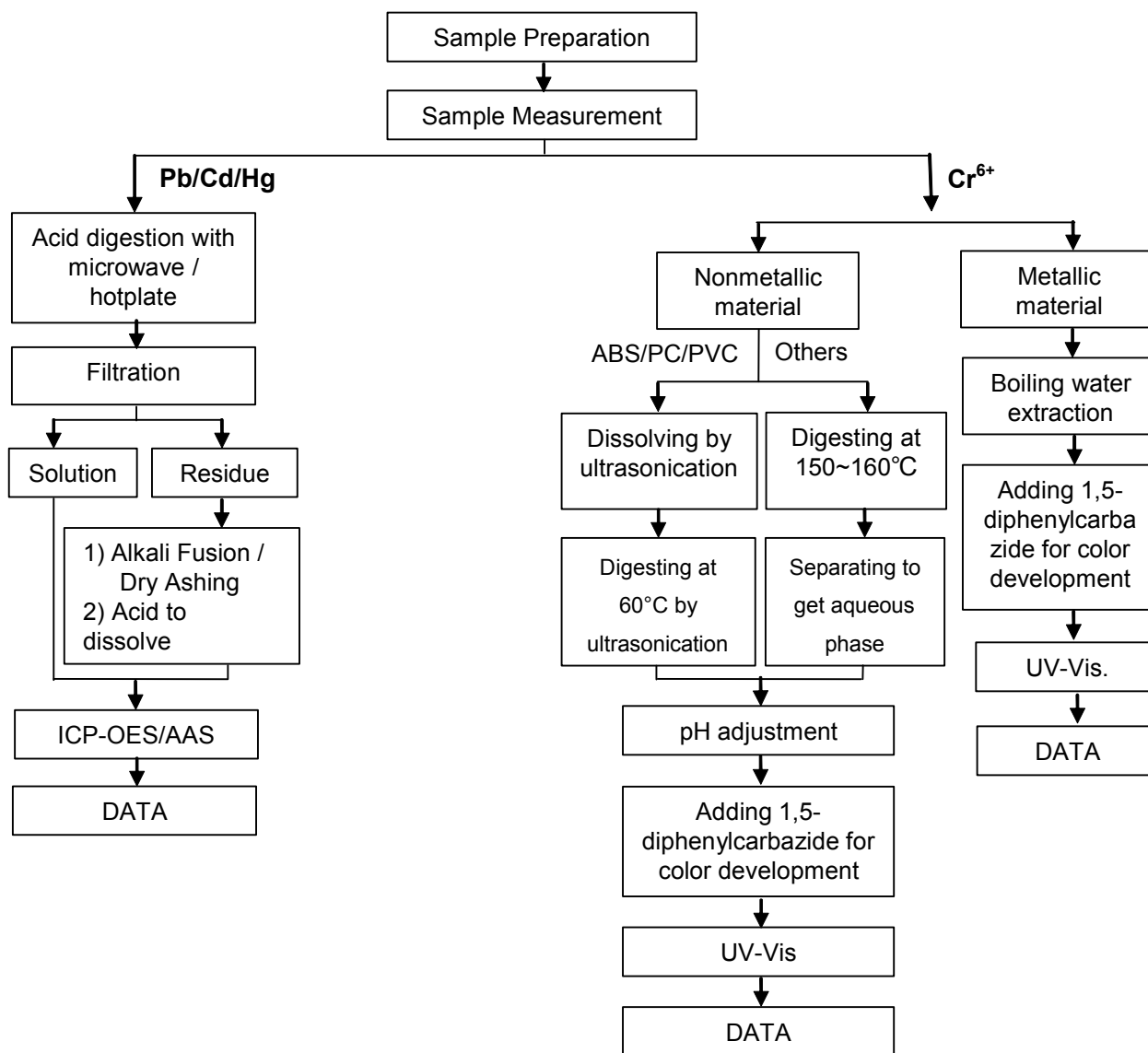
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ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺ Testing Flow Chart

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



Test Report

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Sample photo:



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*** End of Report ***

