S.C. FORMWERK S.R.L.

Sediu **str. Prof. Dr. Ion Athanasiu nr.33 Sector 5, București 050676**
Reg.Com. **J40/3838/2014**
CUI **RO32988372**

IBAN **RO02 INGB 0000 9999 0419 0984**
Banca **ING BANK**

Document

Nr. **IQ2101141201OF**
Data 14**.01.2021**

Pagina **1**
din **1**

BE SMART ≡ MAKE 3D

OPIS Declaratii de conformitate

1. Declaratii de conformitate LOT 1 pag 2-11
2. Declaratii de conformitate LOT 2 pag 11- 102

SC FORMWERK SRL

Bastian Yannik Willi Francis

Administrator

Data completarii 12.05.2021

SOCIETATEA COMERCIALĂ * FORMWERK * S.R.L. BUCUREȘTI - ROMÂNIA

Yannik Willi Francis Bastian

Digitally signed by Yannik Willi Francis Bastian
DN: c=RO, o=FORMWERK SRL, cn=Yannik Willi Francis Bastian, serialNumber=BYWF1, givenName=Yannik Willi Francis, sn=Bastian, 2.5.4.97=RO32988372
Date: 2021.05.12 14:38:20 +03'00'

EC Declaration of Conformity

We, Shanghai Fusion Tech Co., Ltd

4th Floor, Building B5,1600 North Guoquan Road, Shanghai,China

Declare that the product described is in conformity with

The Machinery Directive: 2006/42/EC

Applicable Harmonized standards:
Machinery Directive 2006/42/EC Annex I
EN ISO 12100:2010
EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013

Product Name: E Series 3D Printer
Product Model: E2, E2 Plus, E2S,E2 Lite,E2 Nylon, E3, E3 Plus, E3S ,E3 Nylon , E3 Lite ,E20, E20S,E20 Plus,E20 Lite, E20 Nylon,E4,E5,E6
Trade Mark:

Authorised Representative:

Raise3D B.V.
Stationsplein 45 Unit A4.004 3013AK Rotterdam, the Netherlands

Responsible for making this declaration is the

Manufacturer ☒

Authorized representative established within the EU ☐

2019/10	Derek Li	Derek Li
Issue date and place	**Name and position**	**Signature and company stamp**

VERIFICATION OF COMPLIANCE

No.:	LVD SHES190701848201ATC
Applicant:	Shanghai Fusion Tech Co., Ltd 4th Floor, Building B5,1600 North Guoquan Road, Shanghai, China
Manufacturer:	Shanghai Fusion Tech Co., Ltd 4th Floor, Building B5,1600 North Guoquan Road, Shanghai, China
Product Name:	3D Printer (Product name: E series 3D Printer)
Product Description:	3D Printer (Product name: E series 3D Printer)
Model No.:	E2, E2 Plus, E2S, E2 Lite, E2 Nylon, E3, E3 Plus, E3S, E3 Nylon, E3 Lite, E20, E20S, E20 Plus, E20 Lite, E20 Nylon, E4, E5, E6
Rating:	100 V a.c. - 240 V a.c.; 50 Hz / 60 Hz; 4 A; 350W
Protection against Electric Shock:	Class I
Additional Information:	None

Sufficient samples of the product have been tested and found to be in conformity with

Test Standard:	EN 62368-1:2014 + A11: 2017
as shown in the	
Test Report Number(s):	SHES190701848201

This Verification of Compliance has been granted to the applicant based on the results of tests, performed by Laboratory of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. on sample of the above-mentioned product in accordance with the provisions of the relevant harmonized standards under the Low Voltage Directive 2014/35/EU. The CE marking as shown below can be affixed, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives. The affixing of the CE marking presumes in addition that the conditions in annexes III and IV of the Directive are fulfilled.

Andrew Zhai
Laboratory Technical Manager
SGS-CSTC

2019-10-09

Copyright of this verification is owned by SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. and may not be reproduced other than in full and with the prior approval of the General Manager. This verification is subjected to the governance of the General Conditions of Services, printed overleaf.
Member of SGS Group (Société Générale de Surveillance)

VERIFICATION OF COMPLIANCE

Verification No.:	CKSEM191100076401ATC
Applicant:	Shanghai Fusion Tech Co., Ltd.
Address of Applicant:	1.4th Floor, B5 Building, No.1600 Guoquan N Rd, Shanghai, China 2.43 Tesla Irvine, CA 92618， USA
Product Description:	E series 3D Printer
Model No.:	E2, E2 Plus, E2S, E2 Lite, E2 Nylon, E3, E3 Plus, E3S, E3 Nylon, E3 Lite E20, E20S, E20 Plus, E20 Lite, E20 Nylon, E4, E5, E6

Sufficient samples of the product have been tested and found to be in conformity with

Test Standards:	EN 55032: 2015+AC:2016
	AS/NZS CISPR 32:2015
	EN 61000-3-2:2014
	EN 61000-3-3:2013
	EN 55024:2010+A1:2015

As shown in the

Test Report Number(s): CKSEM191100076401

This verification of EMC Compliance has been granted to the applicant based on the results of the tests, performed by laboratory of Compliance Certification Services (Kunshan) Inc. on the sample of the above-mentioned product in accordance with the provisions of the relevant specific standards under Directive 2014/30/EU. The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Eric.Lin
EMC Lab Manager

Date: 2019-11-29

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Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
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

No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300 t(86-512)57355888 f(86-512)57370818 www.sgsgroup.com.cn
中国・江苏・昆山市留学生创业园伟业路10号 邮编 215300 t(86-512)57355888 f(86-512)57370818 sgs.china@sgs.com

Ref. Certif. No.

BE-35217/M2

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	3D Printer (Product name: E series 3D Printer)
Name and address of the applicant	Shanghai Fusion Tech Co., Ltd 4th Floor, Building B5,1600 North Guoquan Road, Shanghai, China
Name and address of the manufacturer	Shanghai Fusion Tech Co., Ltd 4th Floor, Building B5,1600 North Guoquan Road, Shanghai, China
Name and address of the factory Note: *When more than one factory, please report on page 2*	Shanghai Fusion Tech Co., Ltd 4th Floor, Building B5,1600 North Guoquan Road, Shanghai, China ☐ Additional Information on page 2
Ratings and principal characteristics	100 V a.c. - 240 V a.c.; 50 Hz / 60 Hz; 4 A; 350 W; Class I
Trademark (if any)	Raise 3D
Customer's Testing Facility (CTF) Stage used	-
Model / Type Ref.	E2, E2 Plus, E2S, E2 Lite, E2 Nylon, E3, E3 Plus, E3S, E3 Nylon, E3 Lite, E20, E20S, E20 Plus, E20 Lite, E20 Nylon, E4, E5, E6
Additional information (if necessary may also be reported on page 2)	Re-issue of BE-35217/M1 dated 2019-09-29 due to technical change: change of national differences and power supply cord. For further details please refer to test report. ☐ Additional Information on page 2
A sample of the product was tested and found to be in conformity with	IEC 60950-1:2005, IEC 60950-1:2005/AMD1:2009, IEC 60950-1:2005/AMD2:2013 National Differences: EU Group Differences, EU Special National Conditions, CN, JP, US, AU, NZ
As shown in the Test Report Ref. No. which forms part of this Certificate	SHES190701848101 SHES190701848101-M1 SHES190701848101-M2

This CB Test Certificate is issued by the National Certification Body

SGS Belgium NV - Division SGS CEBEC
Riverside Business Park
Avenue Internationalelaan 55, Building D
B-1070 Brussels, Belgium

Date: 2019-12-12

Signature: Mark Lohmann

This certificate is issued by the company under its General Conditions for Certification Services accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx
Attention is drawn to the limitations of liability defined therein and in the Test Report here above mentioned which findings are reflected in this certificate. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Raise3D Limited Warranty[i]

Pro2 Series, N Series and E2 Series Printers and related Spare Parts

Warranty

Subject to the limitations set forth herein, the “Responsible Raise3D Company” as defined below (which may also be referred to herein as “Raise3D,” or “we”) warrants to the **original purchaser** that during the applicable Warranty Period defined below, the Raise3D products identified above: (1) shall be free from defects in material and workmanship and (2) such hardware Products are manufactured from parts and components that are new or equivalent to new in accordance with industry-standard practices.

If you purchase these products from Raise3D’s reseller, please contact the reseller directly for return/ exchange/ warranty claim.

This warranty is not assignable, and warranty rights belong solely to the initial purchaser of the product and may not be enforced by any subsequent owner of the product.

For products sold in the United States, the Responsible Raise3D Company is Raise3D Technologies, Inc.

For products sold in Europe, the Responsible Raise3D Company is Raise3D BV.

For products sold in China, the Responsible Raise3D Company is Shanghai Elite Intelligent Tech Co., Ltd.

For products sold outside of the United States, Europe or China, the Responsible Raise3D Company is Shanghai Fusion Trading Co., Ltd.

Warranty Period; Repair or Replacement; Shipping

The **standard Warranty Period** for these products is one year from the date of invoice, except that the standard Warranty Period for **heating rod(s), thermal sensor(s), heat bed(s), cooling fan(s) and circuit board(s) such as the LCD, LCD Logic Board, Motion Controller Board and Extruder Board (for Pro2 Series and N Series only)** is ninety (90) days from the date of purchase.

If the original purchaser purchases an extended warranty, then:

- For **One Year Extended Warranties**, the Warranty Period for **all components** is one year from

the date of invoice.
- For **Two Year Extended Warranties**, the Warranty Period for **all components** is two years from the date of invoice.
- For **Three Year Extended Warranties**, the Warranty Period for **all components** is three years from the date of invoice.

Warranty claims must be submitted to Raise3D prior to the end of the applicable Warranty Period.

With respect to valid warranty claims made during the applicable Warranty Period, Raise3D will, at its option, **repair or replace** the defective products at **no charge**. We may also make arrangements with you to send you replacement parts that you may install on the printer. Appearance defects that do not affect product's functioning are NOT covered by this warranty. If a product is to be replaced or returned for repair, shipping will be via ground carrier, and we will pay shipping costs only from the original product delivery address and our facility. You must insure the shipment or accept the risk of loss or damage during shipment. After the return shipment is received by Raise3D and the purchaser's product issues have been confirmed to be covered under this warranty, Raise3D will ship the repaired or replacement printer to the purchaser freight prepaid to an address in the continental United States or Canada, where applicable.

Damage due to shipping the products from Raise3D to the purchaser upon the initial purchase thereof is covered under this limited warranty, but only when Raise3D is shipping the item via a carrier selected by Raise3D. The purchaser of the product, or the purchaser's agents, is responsible for any damage to products that are picked up by the purchaser or its agent or shipper from Raise3D's facility. If Raise3D repairs or replaces a product, its limited warranty term is not extended.

Returns; Exchanges

If the original purchaser is unsatisfied with the printer it purchased from Raise3D, the original purchaser can return/exchange it within 30 days from the date of its purchase, provided that for a printer that is not defective the original purchaser must pay a restocking fee equal to 25% of the manufacturer's suggested retail price (MSRP), and the cost of shipping the printer back to the Raise3D facility. The original purchaser must notify us prior to returning the printer so that we can make appropriate shipping arrangements.

Filaments and Third Party Supplies

Due to wide variations in the quality and performance of third party filaments and other third party-supplied materials and supplies, purchaser agrees to use its best effort to use only certified materials and supplies that are sold or provided by Raise3D (listed at https://www.raise3d.com/compatible-filaments/) or by Raise3D-approved third parties (listed at https://www.raise3d.com/collections/certified-3rd-party-products/). The customer will bear the

risk of damage or product nonperformance resulting from the use of filaments or other supplies that are not supplied by Raise3D or a certified supplier.

If you have unused spare parts, you may return them for a refund during the period ending ninety (90) days from the purchase date. Shipping costs are not refundable, however. Used spare parts cannot be returned or exchanged.

Raise3D reserves the right to determine the validity of all warranty claims.

Limitations; Packaging

The limited warranty provided hereby is void if the printer's serial number has been altered or removed, if the printer has been misused or damaged, or if the printer was altered, modified, or serviced by unauthorized service people, and does not cover damage due to external causes, including problems with electrical power, usage not in accordance with product instructions, failure to perform required cleaning or preventive maintenance if specified by Raise3D and problems caused by use of parts and components not supplied by Raise3D.

Your Raise3D Printer is transported in reusable, durable packaging that has been specially designed to protect the printer during transport. This packaging must be kept during the warranty period and used anytime you need to transport the printer. If the original shipping carton and packaging are not available, the purchaser must notify Raise3D, who will send a replacement carton and packaging materials to the purchaser, at the purchaser's expense.

If you have a warranty claim, please contact your vendor for shipping instructions and other information regarding the processing of your claim.

The foregoing warranty contains Raise3D's sole warranty, and the customer's sole remedy, with respect to defects in any Raise3D products. Raise3D disclaims all other warranties whatsoever, express or implied, with respect to Raise3D's products, including without limitation all warranties of merchantability, fitness for a particular purpose, or noninfringement. In no event will Raise3D be liable for any special, indirect, incidental, or consequential damages of any kind, including but not limited to, loss of profits, lost data or lost software.

These products have been thoroughly tested and inspected at the factory prior to shipment. Nevertheless, inspect your products completely for any damage or loss of parts that may have occurred during shipment. Notify the delivering carrier promptly if damage claims are to be filed.

Raise3D reserves the right to modify or update its products without obligation and to replace any equipment delivered prior to any such change. Raise3D shall own all parts removed from repaired products.

Consumables and Excluded Items

The foregoing warranty does not apply to consumables, such as **hot end(s), nozzle(s), fan cover(s), build surface, build plate(s) or top cover(s)** or other items that are expended in the normal operation of the printer, nor does it cover external devices, accessories or parts added to a Raise3D system after the system is shipped from Raise3D. However, if you have unopened unused filaments or any other unused consumables, you may return them for a refund during the period ending ninety (90) days from the purchase date. Shipping costs are not refundable.

Opened filaments or used consumables cannot be returned or exchanged.

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[i]If the laws of the country in which the Product is sold provide for mandatory and non-waivable warranty rights that are broader than those provided herein, we will provide you with warranty service and rights in accordance with such laws.

CERTIFICATE OF COMPLIANCE

With European Regulation (EC) No 1907/2006

This certificate of compliance applies to the following equipment:

Product Name:	Raise3D 3D Printing Filaments
Filament Type:	PLA, ABS, PC, PETG, PVA of diameter 1.75mm
Brand Name:	Raise3D

We declare that our products and their packaging described above do not use any of the 209 Substances of Very High Concern (SVHC) published at *https://echa.europa.eu/web/guest/candidate-list-table*

The products are not affected by European Regulation (EC) No 1907/2006 and its subsequent amendments.

We further declare that our products do not contain any of substances that require authorization listed in Annex XIV or any of the substances that are restricted listed in Annex XVII of (EC) No 1907/2006 and its subsequent amendments which require authorization for use in the EU.

Signature: Derek Li
Date of Issue: 2020. 9. 10
Place of Issue: Shanghai

Raise 3D Technologies Inc.
US Office: 43 Tesla, Irvine, CA 92618
Netherlands Office: Stationsplein 45 Unit A4.004, Rotterdam 3013AK
China Office: Floor 4, B5, 1688 North Guoquan Road, Yangpu District, Shanghai 200438

CERTIFICATE OF COMPLIANCE

With RoHS Directive 2015/863/EU Annex II

This is to certify that Raise3D designs, manufactures and supplies products to ou customers that are in compliance with RoHS Directive 2015/863/EU Annex II.

We confirm that the products we supply are within restrictions of the current version of RoHS Directive 2015/863/EU Annex II, regarding control of Cadmium (**Cd**), Lead (**Pb**), Mercury (**Hg**) and Hexavalent Chromium (**Cr^{6+}**), The sum of Polybrominated Biphenyls (**PBBs**) and The sum of Polybrominated Diphenyl Ethers (**PBDEs**), Dibutyl Phthalate (**DBP**), Benzyl butyl Phthalate (**BBP**), Bis-(2-ethylhexy) Phthalate (**DEHP**) and Diisobutyl phthalate (**DIBP**). The materials and components utilized in product construction are understood to not intentionally contain the restricted flame retardant materials and heavy metals, and any unintentional impurity-level content will be within restriction limitations of the current version of RoHS Directive 2015/863/EU Annex II.

SUBSTANCE	Directive Limit (mg/kg)	Result (mg/kg)
Pb	≤1000	N.D.
Cd	≤100	N.D.
Hg	≤1000	N.D.
Cr^{6+}	≤1000	N.D.
PBBs	≤1000	N.D.
PBDEs	≤1000	N.D.
DBP	≤1000	N.D.
BBP	≤1000	N.D.
DEHP	≤1000	N.D.
DIBP	≤1000	N.D.

Signature: Derek Li

Date of Issue: 2018.12.30

Place of Issue: 43 Tesla, Irvine, CA

Shanghai Fusion Trading Co., Ltd.
Floor 4, Building B5, No.1600, North Guoquan Rd, Shanghai, 200433
Tel: 86-21-6533 7855 Fax: 86-21-65338082
www.raise3d.com

Safety Data Sheet

According to Hazard Communication Standard (29 CFR 1910.1200)

PolyTerra™ PLA

Version 1.0

Issue date: 10/20/2020

Revision date: 10/20/2020 **SDS record number: CSSS-TCO-100-201020**

1. Product and Company Identification

Material name	PolyTerra™ PLA
CAS #	See section 3
Product code	-
Product use	3D Printing Filament
Manufacturer/Supplier	
Supplier(Manufacturer):	JF Polymers (Suzhou) Co., Ltd.
Address:	Building 6&7&11, No.2, Hai Cheng Road, Chang Shu Economic & Technological Development Zone, 215513, People's Republic of China
Contact person(E-mail):	zhenggang.cai@polymaker.com
Telephone:	0086-512-52058005
Fax:	-
Emergency telephone Number:	0086-512-52058005

2. Hazards identification

GHS classification	
Physical hazards	Not classified
Health hazards	Not classified
Environmental hazards	Not classified
GHS label elements	
Hazard Pictograms	No hazard pictogram is used.
Signal word	No signal word is used.
Hazard statement	Not applicable.
Precautionary statement	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Other hazards	Not available.

3. Composition / Information on Ingredients

This product does not contain hazardous ingredients above cut-off value according to HCS2012.

4. First Aid Measures

First aid procedures

Eye contact	None expected to require first aid measures. Flush with running water for at least 15 minutes. If irritation persists get medical attention.
Skin contact	None expected to require first aid measures. Wash thoroughly with soap and water. Get medical attention in the unlikely event that irritation persists.
Inhalation	None expected to require first aid measures. If breathed in, remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical attention.
Ingestion	Immediate first aid is not likely to be required. A physician or poison control center can be contacted for advice.

Notes to physician	Treat symptoms.

5. Fire Fighting Measure

Flammable properties	Not available.
Extinguishing media	
Suitable extinguishing media	Use extinguishers suitable for surrounding fire.
Unsuitable extinguishing media	Not available.
Firefighting equipment/instructions	Wear self contained breathing apparatus for fire fighting if necessary.
Hazardous combustion products	Carbon oxides.

6. Accidental Release Measures

Personal precautions	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental precautions	Avoid disposing into drainage/sewer system or directly into the aquatic environment.
Methods for cleaning up	Sweep up and shovel into suitable containers. Clean up affected area.

7. Handling and Storage

Handling	Ensure good ventilation/exhaustion at the workplace. Wash thoroughly after handling.
Storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure Controls / Personal Protection

Occupational exposure limits	This product has no PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Individual protection measures, such as personal protective equipment:	
Eye / face protection	No special protection required.
Skin protection	No special protection required.
Respiratory protection	No special protection required.
General hygiene considerations	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

9. Physical & Chemical Properties

Appearance	
Physical state	Solid
Form	Solid
Color	Milky white translucen
Odor	Not available
Odor threshold	Not available
pH	Not available
Vapor pressure	Not available
Vapor density	Not available
Boiling point	Not available
Melting point/Freezing point	Not available
Solubility (water)	Insoluble

Relative Density	1.32
Flash point	Not available
Partition coefficient	Not available
Flammability limits in air, upper, %by volume	Not available
Flammability limits in air, lower, % by volume	Not available
Auto-ignition temperature	Not available
VOC	Not available
Percent volatile	Not available
Molecular Formula	Not available
Molecular Weight	Not available
Other data	
Viscosity	Not available
Dissociation constant	Not available

10. Chemical Stability & Reactivity Information

Reactivity	The substance is stable under normal storage and handling conditions.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.
Possibility of hazardous reactions	No hazardous reactions known.

11. Toxicological Information

Toxicokinetics, metabolism and distribution:

Non-human toxicological data: Not available

Information on toxicological effects:

Acute toxicity:

LD50(Oral, Rat):	Not available
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

12. Ecological Information

Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	N/A	96h	Fish	OECD 203	N/A	N/A
EC50	N/A	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	72h	Algae	OECD 201	N/A	N/A

Persistence and degradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil:	Not available.
Results of PBT&vPvB assessment:	Not available.
Other adverse effects:	Not available.

13. Disposal Considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Basic shipping requirements:	
UN number	Not regulated
Proper shipping name	Not regulated
Hazard class	Not regulated
Packing group	Not regulated
Environmental hazards	No

IATA

UN number	Not regulated
UN proper shipping name	Not regulated
Transport hazard class(es)	Not regulated
Packing group	Not regulated
Environmental hazards	No

IMDG

UN number	Not regulated
UN proper shipping name	Not regulated
Transport hazard class(es)	Not regulated
Packing group	Not regulated
Environmental hazards	No

15. Regulatory Information

US federal regulations

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

16. Other Information

HMIS®ratings	Health: 0 Flammability: 1 Physical hazard: 0
NFPA ratings	Health: 0 Flammability: 1 Instability: 0
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.
Issue date	10-20-2020
Declare to reader	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

171020340088

Test Report

Report No **HAP18122316505R1**

Applicant	JF Polymers(Suzhou) Co.,Ltd.
Address	Haicheng Industrial Park,Bldg 7,Changshu Econimic and Technological Zone,Changshu,Jiangsu Province ,China

Sample Information

Sample Name	PolyMax™ PLA
Sample Description	Material: filament

*The information above is provided and confirmed by the applicant.

Sample Received Date	Dec.24,2018
Testing Period	Dec.24,2018 to Dec.27,2018
Testing Requested	As per client's request,to determine the RoHS 2.0 (Pb,Cd,Hg,Cr^{6+}, PBBs, PBDEs, DBP,BBP,DEHP,DIBP) in the submitted sample according to RoHS Directive 2015/863/EU Annex II.
Testing Results	Please refer to next page(s)
Remark	Based on the test samples,the test results of Cadmium(Cd),Lead(Pb),Mercury(Hg), Hexavalent Chromium (Cr^{6+}),The sum of Polybrominated Biphenyls(PBBs) and The sum of Polybrominated Diphenyl Ethers(PBDEs) ,Dibutyl Phthalate （DBP） ,Benzylbutyl Phthalate （BBP）,Bis-(2-ethylhexyl) Phthalate（DEHP）,Diisobutyl phthalate（DIBP） comply with the limits as set by RoHS Directive 2015/863/EU Annex II.

Signer: Paul. Chen
Authorized signatory

Date: Dec.29,2018

Website of verification report: CNCA verification platform yz.cncaic.cn

江苏环谱检测技术服务有限公司
JIANGSU HAP TESTING SERVICE CO.,LTD
地址：扬州市经济技术开发区吴州东路 198 号
Adderss:NO.198 Wuzhou East Road,economic and technological development zone,YangZhou
URL：www.hap-test.com E-mail：hap@hap-test.com ：400-6600-776 ：0514-89711561

Test Report

Determination of RoHS 2.0 （unit：mg/kg）

Testing method
（1）With reference to IEC 62321-5:2013. By ICP - OES for measuring;
（2）With reference to IEC 62321-4:2013. By ICP-OES for measuring;
（3）With reference to IEC 62321-7-2-2017. By UV-VIS for measuring;
（4）With reference to IEC 62321-6:2015. By GC-MS for measuring.
（5）With reference to IEC 62321-8:2017 .By GC-MS for measuring.

Testing Item(s)	Method	MDL	Limit	Results
Lead （Pb）	(1)	2	1000	ND
Cadmium （Cd）		2	100	ND
Mercury （Hg）	(2)	2	1000	ND
Chromium(VI)（Cr^{6+}）	(3)	8	1000	ND
Polybrominated Biphenyls（PBBs）	(4)	—	1000	ND
Polybrominated Diphenyl Ethers（PBDEs）		—	1000	ND
Dibutyl Phthalate (DBP)	(5)	50	1000	ND
Benzylbutyl Phthalate (BBP)		50	1000	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)		50	1000	ND
Diisobutyl phthalate (DIBP)		50	1000	ND

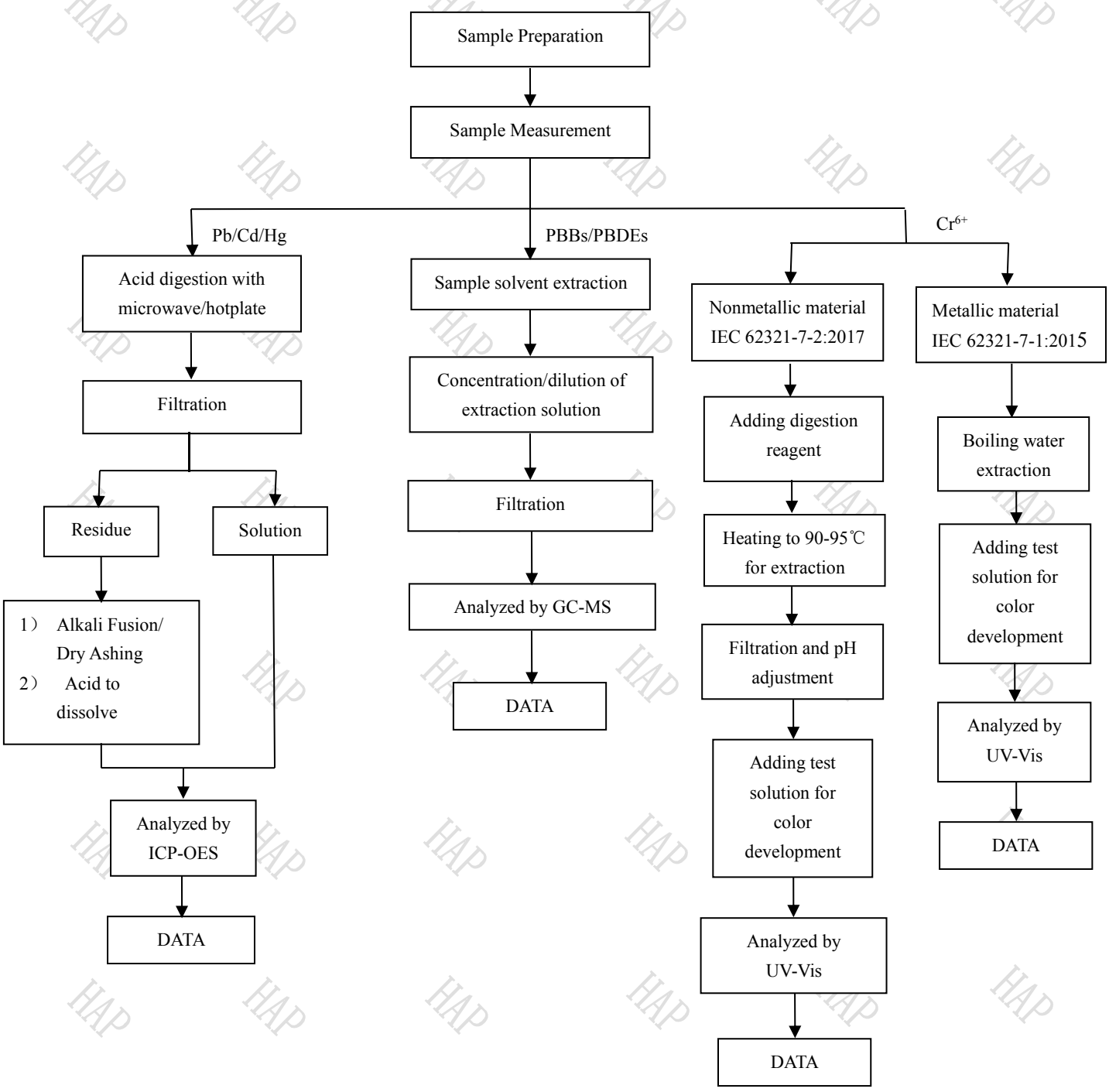
Note：
（1）1 mg/kg=1 ppm=0.0001%
（2）MDL=Method Detection Limit
（3）ND=Not Detected (<MDL)
（4）〝—〞=Not Regulated
（5）Polybrominated diphenyl ethers
（6）Polybrominated Biphenyls,Polybrominated Diphenyl Ethers list,and detection limit (MDL)

Polybrominated Biphenyls（PBBs）	MDL	Polybrominated Diphenyl Ethers（PBDEs）	MDL
Bromobiphenyl	5	Bromobiphenyl ether	5
Dibromobiphenyl	5	Dibromobiphenyl ether	5
Tribromobiphenyl	5	Tribromobiphenyl ether	5
Tetrabromobiphenyl	5	Tetrabromodiphenyl ether	5
Pentabromobiphenyl	5	Pentabromodiphenyl ether	5
Hexabromobiphenyl	5	Hexabromodiphenyl ether	5
Heptabromobiphenyl	5	Heptabromodiphenyl ether	5
Octabromobiphenyl	5	Octabromobiphenyl ether	5
Nonabromobiphenyl	5	Nonabromobiphenyl ether	5
Marabromodiphenyl	5	Marabromobiphenyl ether	5

（7）IEC 62321-8:2017 is not within the scope of CMA certification, DIBP is not within the scope of CNAS and CMA certification

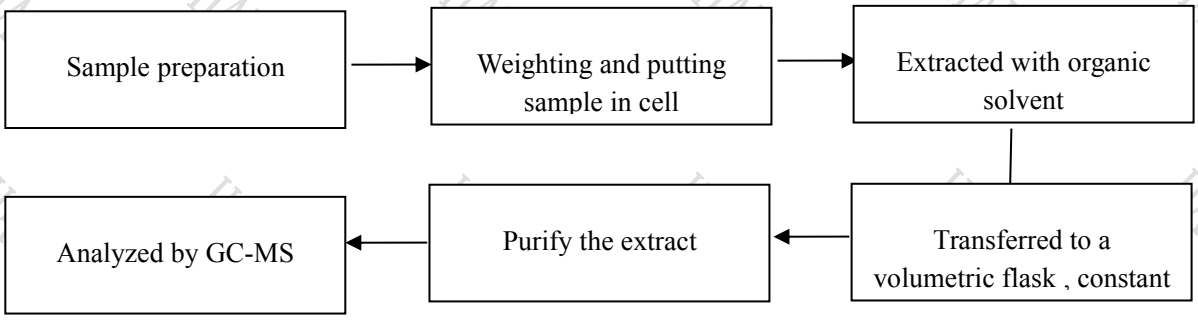
Test Report

RoHS Testing Floe Chart



Test Report

Phthalate Testing Flow Chart:



Sample photo:

HAP18122316505R1

End of report

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（具体通用条款详见 http://www.hap-test.com/customerservice.html）

TEST REPORT

Applicant:	Siridi (Wuhan) 3D Printer Supplies Co., Ltd.
Address:	No.777, Optical Valley 3rd Road, East Lake High-tech Development Zone, Wuhan City

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

Product name:	三维打印耗材
Model:	PLA
Manufacturer:	Siridi (Wuhan) 3D Printer Supplies Co., Ltd.
Address:	No.777, Optical Valley 3rd Road, East Lake High-tech Development Zone, Wuhan City
Sample Received Date:	Apr. 01, 2015
Testing Period	Apr. 01, 2015~Apr. 08, 2015

Test Requirement:

As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr VI), Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs) contents in the submitted sample in accordance with Regulation 2011/65/EU.

Conclusion: Pass

Test Result(s): Please refer to the following page(s);

Test Method: Please refer to the following page(s);

Tested by: Sally Reviewed by:

Approved by: Date: 2015-04-09

NTEK TESTING TECHNOLOGY CO., LTD. APPROVED

Shenzhen NTEK Testing Technology Co., Ltd.
Address: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.
Tel: (86)-0755-61156588 Fax: (86)-0755-61156599 Http: www.ntek.org.cn

Test Result(s):

Test item(s)	Standard requiement, mg/kg	Result(s), mg/kg
		1
Lead(Pb)	≤1000	N.D.
Cadmium(Cd)	≤100	N.D.
Mercury(Hg)	≤1000	N.D.
Hexavalent Chromium(Cr VI)	≤1000	N.D.
Sum of PBBs	≤1000	N.D.
Monobromobiphenyl	/	N.D.
Dibromobiphenyl	/	N.D.
Tribromobiphenyl	/	N.D.
Tetrabromobiphenyl	/	N.D.
Pentabromobiphenyl	/	N.D.
Hexabromobiphenyl	/	N.D.
Heptabromobiphenyl	/	N.D.
Octabromobiphenyl	/	N.D.
Nonabromobiphenyl	/	N.D.
Decabromobiphenyl	/	N.D.
Sum of PBDEs	≤1000	N.D.
Monobromodiphenyl ether	/	N.D.
Dibromodiphenyl ether	/	N.D.
Tribromodiphenyl ether	/	N.D.
Tetrabromodiphenyl ether	/	N.D.
Pentabromodiphenyl ether	/	N.D.
Hexabromodiphenyl ether	/	N.D.
Heptabromodiphenyl ether	/	N.D.
Octabromodiphenyl ether	/	N.D.
Nonabromodiphenyl ether	/	N.D.
Decabromodiphenyl ether	/	N.D.

Sample Description:

1:White plastic tube

Notes:

1mg/kg=1ppm = 0.0001%

N.D. = Not Detected (<MDL)

MDL = Method Detection Limit

/=Not Regulated

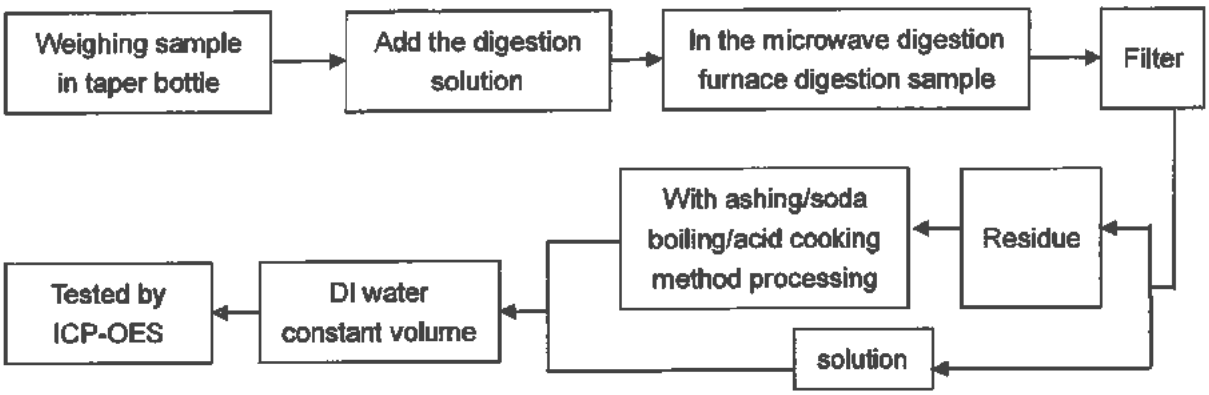
---=Not Applicable

Test Method:

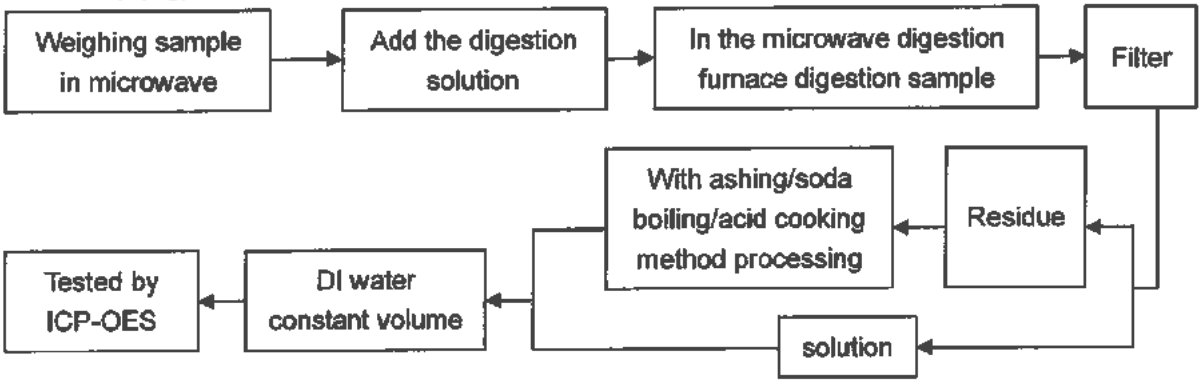
Test item	Test method	Test instrument	MDL
Lead(Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg
Cadmium(Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg
Mercury(Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES	2 mg/kg
Hexavalent Chromium(Cr VI)	IEC 62321:2008 Ed.1	UV-Vis	2 mg/kg
PBBs/ PBDEs	IEC 62321:2008 Ed.1 Annex A	GC-MS	5 mg/kg

Test Flow:

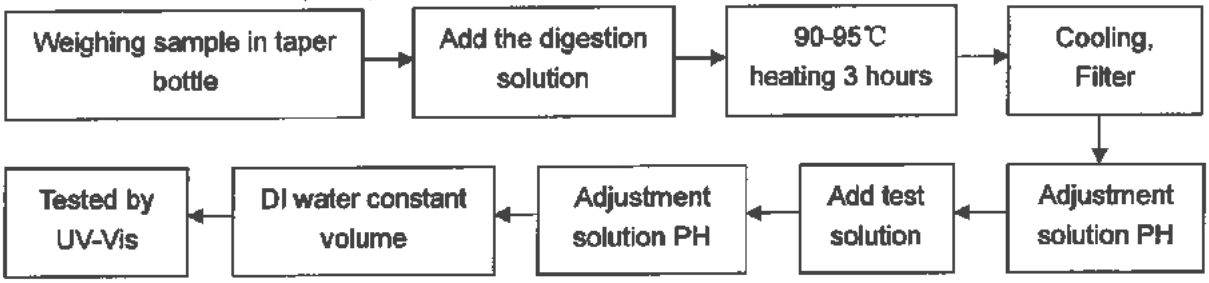
1. Lead(Pb), Cadmium(Cd)



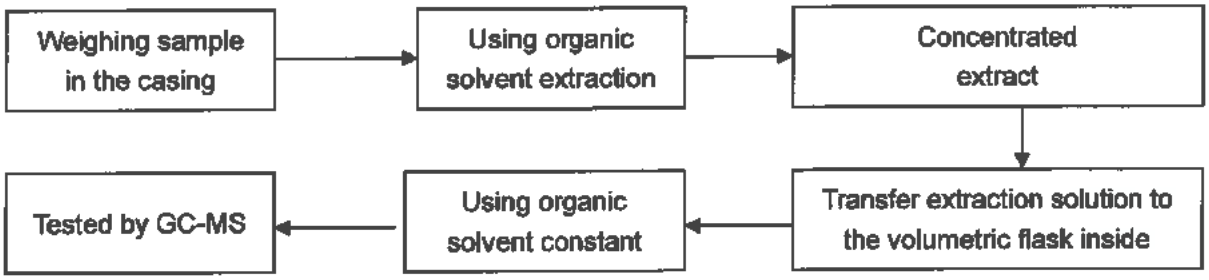
2. Mercury (Hg)



3. Hexavalent Chromium(Cr VI)



4. PBBs/ PBDEs



Sample photo(s):

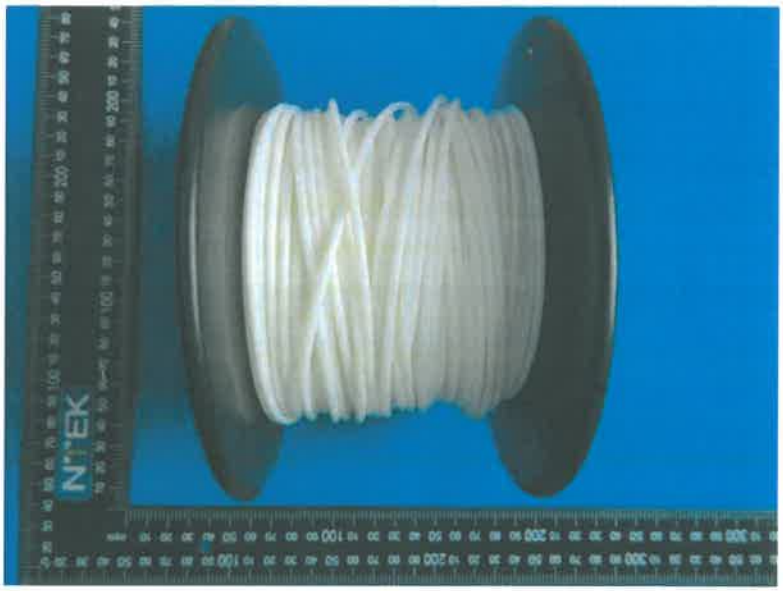


Fig.1

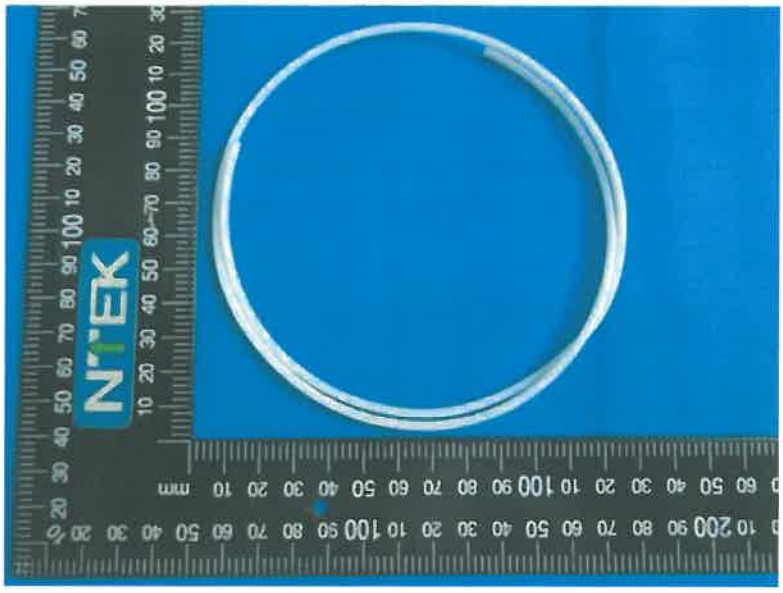


Fig.2

****End of Report****

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of NTEK, this report can't be reproduced except in full.

The following information was/were submitted and identified by/on behalf of the client:

Applicant	:	JF Polymers(Suzhou) Co.,Ltd.
Address	:	Haicheng Industrial Park,Bldg 7,Changshu Economic and Technological Zone,Changshu,Jiangsu Province ,China
Sample Name	:	PolyMide™ PA6-CF
Sample Model	:	Filament
Sample Receive Date	:	Feb. 27, 2019
Sample Testing Period	:	Feb. 27, 2019 - Mar. 07, 2019

Test Result Summary:

As requested by the applicant, for details refer to attached page(s).

TEST ITEM(S)	TEST REQUESTED	RESULT(S)
One hundred and Ninety-seven(197) substances content in SVHC	ECHA's SVHC candidate on and before Jan. 15, 2019 of European Commission Regulation 1907/2006/EC concerning the REACH	LESS THAN 0.1% (w/w)

ORIGINAL

Authorized signature:

Lab Manager: Gavin Zhou

Mar. 07, 2019

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Test Result(s):

Test Sample Description:

Material No.	Material Description
01	Black plastic string

SVHC content

Reference Method:
1) US EPA 3540C: 1996 & US EPA 8270D: 2007
2) US EPA 3550C: 2007 & US EPA 8270D: 2007
3) US EPA 3050B: 1996 & US EPA 6010C: 2007
4) US EPA 3052: 1996 & US EPA 6010C: 2007
5) US EPA 3060A: 1996 & US EPA 7196A: 1992
6) US EPA 3550C: 2007 & US EPA 8321B: 2007
7) US EPA 8260B: 1996
8) ISO 3613: 2010
9) EN 14582: 2016
10) EN ISO 14362-1: 2017

NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
1	Anthracene	120-12-7	204-371-1	0.020	N.D.
2	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	202-974-4	0.020	N.D.
3	Dibutyl phthalate (DBP)	84-74-2	201-557-4	0.020	N.D.
4	Cobalt dichloride*	7646-79-9	231-589-4	0.005	N.D.
5	Diarsenic pentaoxide*	1303-28-2	215-116-9	0.005	N.D.
6	Diarsenic trioxide*	1327-53-3	215-481-4	0.005	N.D.
7	Sodium dichromate*	7789-12-0, 10588-01-9	234-190-3	0.005	N.D.
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	0.020	N.D.
9	Hexabromocyclododecane (HBCDD)	25637-99-4, 3194-55-6	247-148-4, 221-695-9	0.020	N.D.
10	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	0.020	N.D.
11	Bis(tributyltin)oxide(TBTO)	56-35-9	200-268-0	0.020	N.D.
12	Lead hydrogen arsenate*	7784-40-9	232-064-2	0.005	N.D.
13	Triethyl arsenate*	15606-95-8	427-700-2	0.005	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
14	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	0.020	N.D.
15	Anthracene oil	90640-80-5	292-602-7	0.020	N.D.
16	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	0.020	N.D.
17	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	0.020	N.D.
18	Anthracene oil, anthracene-low	90640-82-7	292-604-8	0.020	N.D.
19	Anthracene oil, anthracene paste	90640-81-6	292-603-2	0.020	N.D.
20	Pitch, coal tar, high temp.	65996-93-2	266-028-2	0.020	N.D.
21	Diisobutyl phthalate (DIBP)	84-69-5	201-553-2	0.020	N.D.
22	2,4-Dinitrotoluene	121-14-2	204-450-0	0.020	N.D.
23	Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	0.020	N.D.
24	Lead chromate*	7758-97-6	231-846-0	0.005	N.D.
25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) *	12656-85-8	235-759-9	0.005	N.D.
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34) *	1344-37-2	215-693-7	0.005	N.D.
27	Acrymide	79-06-1	201-173-7	0.020	N.D.
28	Trichloroethylene	79-01-6	201-167-4	0.020	N.D.
29	Boric acid*	10043-35-3, 1113-50-1	233-139-2, 234-343-4	0.005	N.D.
30	Disodium tetraborate, anhydrous*	1303-96-4, 1330-43-4, 12179-04-3	215-540-4	0.005	N.D.
31	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	0.005	N.D.
32	Sodium chromate*	7775-11-3	231-889-5	0.005	N.D.
33	Ammonium dichromate*	7789-09-5	232-143-1	0.005	N.D.
34	Potassium chromate*	7789-00-6	232-140-5	0.005	N.D.
35	Potassium dichromate*	7778-50-9	231-906-6	0.005	N.D.
36	Cobalt(Ⅱ) sulphate*	10124-43-3	233-334-2	0.005	N.D.
37	Cobalt(Ⅱ) dinitrate*	10141-05-6	233-402-1	0.005	N.D.
38	Cobalt(Ⅱ) carbonate*	513-79-1	208-169-4	0.005	N.D.
39	Cobalt(Ⅱ) diacetate*	71-48-7	200-755-8	0.005	N.D.
40	2-Methoxyethanol	109-86-4	203-713-7	0.020	N.D.
41	2-Ethoxyethanol	110-80-5	203-804-1	0.020	N.D.
42	Chromium trioxide*	1333-82-0	215-607-8	0.005	N.D.
43	Chromic acid, dichromic acid, Oligomers of chromic acid, and dichromic acid*	7738-94-5, 13530-68-2	231-801-5, 236-881-5	0.005	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
44	Strontium chromate*	7789-06-2	232-142-6	0.005	N.D.
45	2-ethoxyethyl acetate	111-15-9	203-839-2	0.020	N.D.
46	Hydrazine	302-01-2, 7803-57-8	206-114-9	0.020	N.D.
47	1-Methyl-2-pyrrolidone	872-50-4	212-828-1	0.020	N.D.
48	1,2,3-trichloropropane	96-18-4	202-486-1	0.020	N.D.
49	1,2-Benzenedicarboxylic acid, di-C7 -11-branched and linear alkyl esters	68515-42-4	271-084-6	0.020	N.D.
50	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	276-158-1	0.020	N.D.
51	Dichromium tris(chromate) *	24613-89-6	246-356-2	0.005	N.D.
52	Potassium hydroxy-octaoxodizincatedichromate*	11103-86-9	234-329-8	0.005	N.D.
53	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	0.005	N.D.
54	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) *	Index number: 650-017-00-8		0.005	N.D.
55	Aluminosilicate Refractory Ceramic Fibres (RCF) *	Index number: 650-017-00-8		0.005	N.D.
56	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-1	0.020	N.D.
57	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	0.020	N.D.
58	2-Methoxyaniline /o-Anisidine	90-04-0	201-963-1	0.020	N.D.
59	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2	0.020	N.D.
60	1,2-Dichloroethane	107-06-2	203-458-1	0.020	N.D.
61	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	0.020	N.D.
62	Arsenic acid*	7778-39-4	231-901-9	0.005	N.D.
63	Calcium arsenate*	7778-44-1	231-904-5	0.005	N.D.
64	Trilead diarsenate*	3687-31-8	222-979-5	0.005	N.D.
65	N,N-dimethylacetamide	127-19-5	204-826-4	0.020	N.D.
66	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	202-918-9	0.020	N.D.
67	Phenolphthalein	77-09-8	201-004-7	0.020	N.D.
68	Lead diazide, Lead azide*	13424-46-9	236-542-1	0.005	N.D.
69	Lead styphnate*	15245-44-0	239-290-0	0.005	N.D.
70	Lead dipicrate*	6477-64-1	229-335-2	0.005	N.D.
71	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	0.020	N.D.
72	Lead(II) bis(methanesulfonate)	17570-76-2	401-750-5	0.005	N.D.
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether(EGDME)	110-71-4	203-794-9	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
74	Diboron trioxide*	1303-86-2	215-125-8	0.005	N.D.
75	Formamide	75-12-7	200-842-0	0.020	N.D.
76	1,3,5-tris(oxiranylmethyl)-1,3,5 -triazine-2,4,6-trione (TGIC)	2451-62-9	219-514-3	0.020	N.D.
77	1,3,5-tris[(2S and 2R)-2,3 - epoxypropyl]-1,3,5-triazine -2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	423-400-0	0.020	N.D.
78	4,4'-bis(dimethylamino) benzophenone	90-94-8	202-027-5	0.020	N.D.
79	N,N,N',N'-tetramethyl-4,4' -methylenedianiline	101-61-1	202-959-2	0.020	N.D.
80	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl] methylene]cyclohexa-2,5- dien- 1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5	219-943-6	0.020	N.D.
81	[[4-[4,4'-bis(dimethylamino) benz -hydrylidene]cyclohexa -2,5-dien -1-ylidene] dimethylam-monium chloride (C.I. Basic Violet 3)	548-62-9	208-953-6	0.020	N.D.
82	4,4'-bis(dimethylamino)-4'' -(methylamino)trityl alcohol	561-41-1	209-218-2	0.020	N.D.
83	α,α-Bis[4-(dimethylamino)phenyl] -4(phenylamino)naphthalene- 1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	0.020	N.D.
84	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	0.005	N.D.
85	6-methoxy-m-toluidine(p-cresidine)	120-71-8	204-419-1	0.020	N.D.
86	Henicosafluoroundecanoic acid	2058-94-8	218-165-4	0.020	N.D.
87	Hexahydromethylphthalic anhydride [1], Hexahydro-4- methylphthalic anhydride [2], Hexahydro- 1-methylphthalic anhydride [3], Hexahydro- 3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
88	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane- 1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	201-604-9, 236-086-3, 238-009-9	0.020	N.D.
89	Dibutyltin dichloride(DBTC)	683-18-1	211-670-0	0.020	N.D.
90	Lead bis(tetrafluoroborate) *	13814-96-5	237-486-0	0.005	N.D.
91	Lead dinitrate*	10099-74-8	233-245-9	0.005	N.D.
92	Silicic acid, lead salt*	11120-22-2	234-363-3	0.005	N.D.
93	4-Aminoazobenzene	60-09-3	200-453-6	0.020	N.D.
94	Lead titanium zirconium oxide*	12626-81-2	235-727-4	0.005	N.D.
95	Lead monoxide (lead oxide) *	1317-36-8	215-267-0	0.005	N.D.
96	o-Toluidine	95-53-4	202-429-0	0.020	N.D.
97	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	0.020	N.D.
98	Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008] *	68784-75-8	272-271-5	0.005	N.D.
99	Trilead bis(carbonate) dihydroxide*	1319-46-6	215-290-6	0.005	N.D.
100	Furan	110-00-9	203-727-3	0.020	N.D.
101	N,N-dimethylformamide	68-12-2	200-679-5	0.020	N.D.
102	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	-	0.020	N.D.
103	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination	-	-	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
	thereof]				
104	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	0.020	N.D.
105	Diethyl sulphate	64-67-5	200-589-6	0.020	N.D.
106	Dimethyl sulphate	77-78-1	201-058-1	0.020	N.D.
107	Lead oxide sulfate*	12036-76-9	234-853-7	0.005	N.D.
108	Lead titanium trioxide*	12060-00-3	235-038-9	0.005	N.D.
109	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	0.005	N.D.
110	[Phthalato(2-)] dioxotrilead	69011-06-9	273-688-5	0.020	N.D.
111	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	214-604-9	0.020	N.D.
112	N-methylacetamide	79-16-3	201-182-6	0.020	N.D.
113	Dinoseb (6-sec-butyl-2,4- dinitrophenol)	88-85-7	201-861-7	0.020	N.D.
114	1,2-Diethoxyethane	629-14-1	211-076-1	0.020	N.D.
115	Tetralead trioxide sulphate	12202-17-4	235-380-9	0.020	N.D.
116	N-pentyl-isopentyl phthalate	776297-69-9	-	0.020	N.D.
117	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	0.005	N.D.
118	Tetraethyllead*	78-00-2	201-075-4	0.005	N.D.
119	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	0.005	N.D.
120	Pentacosafluorotridecanoic acid	72629-94-8	276-745-2	0.020	N.D.
121	Tricosafluorododecanoic acid	307-55-1	206-203-2	0.020	N.D.
122	Heptacosafluorotetradecanoic acid	376-06-7	206-803-4	0.020	N.D.
123	1-bromopropane (n-propyl bromide)	106-94-5	203-445-0	0.020	N.D.
124	Methoxyacetic acid	625-45-6	210-894-6	0.020	N.D.
125	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	202-453-1	0.020	N.D.
126	Methyloxirane (Propylene oxide)	75-56-9	200-879-2	0.020	N.D.
127	Trilead dioxide phosphonate*	12141-20-7	235-252-2	0.005	N.D.
128	o-aminoazotoluene	97-56-3	202-591-2	0.020	N.D.
129	1,2-Benzenedicarboxylic acid,	84777-06-0	284-032-2	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s) 01
	dipentylester, branched and linear				
130	4,4'-oxydianiline and its salts	101-80-4	202-977-0	0.020	N.D.
131	Orange lead (lead tetroxide)*	1314-41-6	215-235-6	0.005	N.D.
132	Biphenyl-4-ylamine	92-67-1	202-177-1	0.020	N.D.
133	Diisopentylphthalate	605-50-5	210-088-4	0.020	N.D.
134	Fatty acids, C16-18, lead salts	91031-62-8	292-966-7	0.020	N.D.
135	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	0.020	N.D.
136	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	0.005	N.D.
137	Lead cyanamidate*	20837-86-9	244-073-9	0.005	N.D.
138	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	-	0.020	N.D.
139	Cadmium	7440-43-9	231-152-8	0.005	N.D.
140	Ammonium pentadecafluorooctanoate(APFO)	3825-26-1	223-320-4	0.020	N.D.
141	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9	0.020	N.D.
142	Dipentyl phthalate(DPP)	131-18-0	205-017-9	0.020	N.D.
143	Cadmium oxide*	1306-19-0	215-146-2	0.005	N.D.
144	Cadmium sulphide*	1306-23-6	215-147-8	0.005	N.D.
145	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1, 1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	0.020	N.D.
146	Dihexyl phthalate(DHP)	84-75-3	201-559-5	0.020	N.D.
147	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	202-506-9	0.020	N.D.
148	Trixylyl phosphate	25155-23-1	246-677-8	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
149	Disodium 3,3'-[[1,1'-biphenyl]-4,4' -diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	0.020	N.D.
150	Lead di(acetate)*	301-04-2	206-104-4	0.005	N.D.
151	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5	0.020	N.D.
152	Sodium perborate; perboric acid, sodium salt*	-	239-172-9, 234-390-0	0.005	N.D.
153	Sodium peroxometaborate*	7632-04-4	231-556-4	0.005	N.D.
154	Cadmium chloride*	10108-64-2	233-296-7	0.005	N.D.
155	Bis (2-ethylhexyl) phthalate(DEHP)	117-81-7	204-211-0	0.020	N.D.
156	2-benzotriazol-2-yl-4,6-di-tert-butylphenol(UV-320)	3846-71-7	223-346-6	0.020	N.D.
157	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	239-622-4	0.020	N.D.
158	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-	0.020	N.D.
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol(UV-328)	25973-55-1	247-384-8	0.020	N.D.
160	Cadmium fluoride*	7790-79-6	232-222-0	0.005	N.D.
161	Cadmium sulphate*	10124-36-4, 31119-53-6	233-331-6	0.005	N.D.
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5, 68648-93-1	271-094-0, 272-013-1	0.020	N.D.
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	--	--	0.020	N.D.
164	1,3-propanesultone	1120-71-4	214-317-9	0.020	N.D.
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	0.020	N.D.
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	0.020	N.D.
167	Nitrobenzene	98-95-3	202-716-0	0.020	N.D.
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1, 21049-39-8,	206-801-3	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
		4149-60-4			
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	200-028-5	0.020	N.D.
170	4,4'-isopropylidenediphenol (Bisphenol A)	80-05-7	201-245-8	0.020	N.D.
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	--	--	0.020	N.D.
172	4-Heptylphenol, branched and linear	--	--	0.020	N.D.
173	p-(1,1-dimethylpropyl) phenol	80-46-6	201-280-9	0.020	N.D.
174	Perfluorohexane-1-sulphonic acid and its salts(PFHxS)	--	--	0.020	N.D.
175	Chrysene	218-01-9, 1719-03-5	205-923-4	0.020	N.D.
176	Benz[a]anthracene	56-55-3, 1718-53-2	200-280-6	0.020	N.D.
177	Cadmium nitrate*	10022-68-1, 10325-94-7	233-710-6	0.005	N.D.
178	Cadmium carbonate*	513-78-0	208-168-9	0.005	N.D.
179	Cadmium hydroxide*	21041-95-2	244-168-5	0.005	N.D.
180	Dodecachloropentacyclo[12.2.1.16,9.02,13 .05,10]octadeca-7,15-diene (“Dechlorane Plus”™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	-	0.020	N.D.
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)]	-	-	0.020	N.D.
182	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride) (TMA)	552-30-7	209-008-0	0.020	N.D.
183	Dicyclohexyl phthalate(DCHP)	84-61-7	201-545-9	0.020	N.D.
184	Benzo[ghi]perylene	191-24-2	205-883-8	0.020	N.D.
185	Decamethylcyclopentasiloxane(D5)	541-02-6	208-764-9	0.020	N.D.
186	Disodium octaborate*	12008-41-2, 12280-03-4	234-541-0	0.005	N.D.
187	Dodecamethylcyclohexasiloxane(D6)	540-97-6	208-762-8	0.020	N.D.
188	Ethylenediamine(EDA)	107-15-3	203-468-6	0.020	N.D.
189	Lead*	7439-92-1	231-100-4	0.005	N.D.
190	Octamethylcyclotetrasiloxane(D4)	556-67-2	209-136-7	0.020	N.D.
191	Terphenyl, hydrogenated	61788-32-7	262-967-7	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
192	1,7,7-trimethyl-3-(phenylmethylene)bicyclo [2.2.1]heptan-2-one; 3-benzylidene camphor; 3-BC	15087-24-8	239-139-9	0.020	N.D.
193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	401-720-1	0.020	N.D.
194	Benzo[k]fluoranthene	207-08-9	205-916-6	0.020	N.D.
195	Fluoranthene	206-44-0; 93951-69-0	205-912-4	0.020	N.D.
196	Phenanthrene	85-01-8	201-581-5	0.020	N.D.
197	Pyrene	129-00-0; 1718-52-1	204-927-3	0.020	N.D.

Note:
1. 1000mg/kg = 0.1%;
2. RL = Report Limit;
3. N.D. = Not Detected(<RL);
4. "*" = The test result is based on the calculation of selected element(s) / marker(s) and to the worst case;
5. The detail information for the SVHC published at website of ECHA: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
6. In accordance with Regulation (EC) No. 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, namely (a) the substance is present in those article in quantities totaling over one ton per producer or importer per year; and (b) the substance is present in those articles above a concentration of 0.1% weight by weight (w/w);
7. Article 33 of Regulation (EC) No. 1907/2006 requires supplier of an article containing a substance meets the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance.

Remark: This report replaces the report No. GNB190227139-01EN, Date: Mar. 07, 2019.

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Sample Photo(s):

GIG authenticate the photo(s) on original report only

*****End of Report*****

ORIGINAL

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The following information was/were submitted and identified by/on behalf of the client:

Applicant	:	JF Polymers(Suzhou) Co.,Ltd.
Address	:	Haicheng Industrial Park,Bldg 7,Changshu Economic and Technological Zone,Changshu,Jiangsu Province ,China
Sample Name	:	PolyMide™ PA6-GF
Sample Model	:	Filament
Sample Receive Date	:	Feb. 27, 2019
Sample Testing Period	:	Feb. 27, 2019 - Mar. 07, 2019

Test Result Summary:

As requested by the applicant, for details refer to attached page(s).

TEST ITEM(S)	TEST REQUESTED	RESULT(S)
One hundred and Ninety-seven(197) substances content in SVHC	ECHA's SVHC candidate on and before Jan. 15, 2019 of European Commission Regulation 1907/2006/EC concerning the REACH	LESS THAN 0.1% (w/w)

ORIGINAL

Authorized signature:

Lab Manager: Gavin Zhou

Mar. 08, 2019

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Test Result(s):

Test Sample Description:

Material No.	Material Description
01	Beige plastic string

SVHC content

Reference Method:
1) US EPA 3540C: 1996 & US EPA 8270D: 2007
2) US EPA 3550C: 2007 & US EPA 8270D: 2007
3) US EPA 3050B: 1996 & US EPA 6010C: 2007
4) US EPA 3052: 1996 & US EPA 6010C: 2007
5) US EPA 3060A: 1996 & US EPA 7196A: 1992
6) US EPA 3550C: 2007 & US EPA 8321B: 2007
7) US EPA 8260B: 1996
8) ISO 3613: 2010
9) EN 14582: 2016
10) EN ISO 14362-1: 2017

NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
1	Anthracene	120-12-7	204-371-1	0.020	N.D.
2	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	202-974-4	0.020	N.D.
3	Dibutyl phthalate (DBP)	84-74-2	201-557-4	0.020	N.D.
4	Cobalt dichloride*	7646-79-9	231-589-4	0.005	N.D.
5	Diarsenic pentaoxide*	1303-28-2	215-116-9	0.005	N.D.
6	Diarsenic trioxide*	1327-53-3	215-481-4	0.005	N.D.
7	Sodium dichromate*	7789-12-0, 10588-01-9	234-190-3	0.005	N.D.
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	0.020	N.D.
9	Hexabromocyclododecane (HBCDD)	25637-99-4, 3194-55-6	247-148-4, 221-695-9	0.020	N.D.
10	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	0.020	N.D.
11	Bis(tributyltin)oxide(TBTO)	56-35-9	200-268-0	0.020	N.D.
12	Lead hydrogen arsenate*	7784-40-9	232-064-2	0.005	N.D.
13	Triethyl arsenate*	15606-95-8	427-700-2	0.005	N.D.
14	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
15	Anthracene oil	90640-80-5	292-602-7	0.020	N.D.
16	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	0.020	N.D.
17	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	0.020	N.D.
18	Anthracene oil, anthracene-low	90640-82-7	292-604-8	0.020	N.D.
19	Anthracene oil, anthracene paste	90640-81-6	292-603-2	0.020	N.D.
20	Pitch, coal tar, high temp.	65996-93-2	266-028-2	0.020	N.D.
21	Diisobutyl phthalate (DIBP)	84-69-5	201-553-2	0.020	N.D.
22	2,4-Dinitrotoluene	121-14-2	204-450-0	0.020	N.D.
23	Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	0.020	N.D.
24	Lead chromate*	7758-97-6	231-846-0	0.005	N.D.
25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) *	12656-85-8	235-759-9	0.005	N.D.
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34) *	1344-37-2	215-693-7	0.005	N.D.
27	Acrymide	79-06-1	201-173-7	0.020	N.D.
28	Trichloroethylene	79-01-6	201-167-4	0.020	N.D.
29	Boric acid*	10043-35-3, 1113-50-1	233-139-2, 234-343-4	0.005	N.D.
30	Disodium tetraborate, anhydrous*	1303-96-4, 1330-43-4, 12179-04-3	215-540-4	0.005	N.D.
31	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	0.005	N.D.
32	Sodium chromate*	7775-11-3	231-889-5	0.005	N.D.
33	Ammonium dichromate*	7789-09-5	232-143-1	0.005	N.D.
34	Potassium chromate*	7789-00-6	232-140-5	0.005	N.D.
35	Potassium dichromate*	7778-50-9	231-906-6	0.005	N.D.
36	Cobalt(Ⅱ) sulphate*	10124-43-3	233-334-2	0.005	N.D.
37	Cobalt(Ⅱ) dinitrate*	10141-05-6	233-402-1	0.005	N.D.
38	Cobalt(Ⅱ) carbonate*	513-79-1	208-169-4	0.005	N.D.
39	Cobalt(Ⅱ) diacetate*	71-48-7	200-755-8	0.005	N.D.
40	2-Methoxyethanol	109-86-4	203-713-7	0.020	N.D.
41	2-Ethoxyethanol	110-80-5	203-804-1	0.020	N.D.
42	Chromium trioxide*	1333-82-0	215-607-8	0.005	N.D.
43	Chromic acid, dichromic acid, Oligomers of chromic acid, and dichromic acid*	7738-94-5, 13530-68-2	231-801-5, 236-881-5	0.005	N.D.
44	Strontium chromate*	7789-06-2	232-142-6	0.005	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
45	2-ethoxyethyl acetate	111-15-9	203-839-2	0.020	N.D.
46	Hydrazine	302-01-2, 7803-57-8	206-114-9	0.020	N.D.
47	1-Methyl-2-pyrrolidone	872-50-4	212-828-1	0.020	N.D.
48	1,2,3-trichloropropane	96-18-4	202-486-1	0.020	N.D.
49	1,2-Benzenedicarboxylic acid, di-C7 -11-branched and linear alkyl esters	68515-42-4	271-084-6	0.020	N.D.
50	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	276-158-1	0.020	N.D.
51	Dichromium tris(chromate) *	24613-89-6	246-356-2	0.005	N.D.
52	Potassium hydroxy-octaoxodizincatedichromate*	11103-86-9	234-329-8	0.005	N.D.
53	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	0.005	N.D.
54	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) *	Index number: 650-017-00-8		0.005	N.D.
55	Aluminosilicate Refractory Ceramic Fibres (RCF) *	Index number: 650-017-00-8		0.005	N.D.
56	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-1	0.020	N.D.
57	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	0.020	N.D.
58	2-Methoxyaniline /o-Anisidine	90-04-0	201-963-1	0.020	N.D.
59	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2	0.020	N.D.
60	1,2-Dichloroethane	107-06-2	203-458-1	0.020	N.D.
61	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	0.020	N.D.
62	Arsenic acid*	7778-39-4	231-901-9	0.005	N.D.
63	Calcium arsenate*	7778-44-1	231-904-5	0.005	N.D.
64	Trilead diarsenate*	3687-31-8	222-979-5	0.005	N.D.
65	N,N-dimethylacetamide	127-19-5	204-826-4	0.020	N.D.
66	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	202-918-9	0.020	N.D.
67	Phenolphthalein	77-09-8	201-004-7	0.020	N.D.
68	Lead diazide, Lead azide*	13424-46-9	236-542-1	0.005	N.D.
69	Lead styphnate*	15245-44-0	239-290-0	0.005	N.D.
70	Lead dipicrate*	6477-64-1	229-335-2	0.005	N.D.
71	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	0.020	N.D.
72	Lead(II) bis(methanesulfonate)	17570-76-2	401-750-5	0.005	N.D.
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether(EGDME)	110-71-4	203-794-9	0.020	N.D.
74	Diboron trioxide*	1303-86-2	215-125-8	0.005	N.D.

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					01
75	Formamide	75-12-7	200-842-0	0.020	N.D.
76	1,3,5-tris(oxiranylmethyl)-1,3,5 -triazine-2,4,6-trione (TGIC)	2451-62-9	219-514-3	0.020	N.D.
77	1,3,5-tris[(2S and 2R)-2,3 - epoxypropyl]-1,3,5-triazine -2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	423-400-0	0.020	N.D.
78	4,4'-bis(dimethylamino) benzophenone	90-94-8	202-027-5	0.020	N.D.
79	N,N,N',N'-tetramethyl-4,4' -methylenedianiline	101-61-1	202-959-2	0.020	N.D.
80	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl] methylene]cyclohexa-2,5- dien- 1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5	219-943-6	0.020	N.D.
81	[[4-[4,4'-bis(dimethylamino) benz -hydrylidene]cyclohexa -2,5-dien -1-ylidene] dimethylam-monium chloride (C.I. Basic Violet 3)	548-62-9	208-953-6	0.020	N.D.
82	4,4'-bis(dimethylamino)-4'' -(methylamino)trityl alcohol	561-41-1	209-218-2	0.020	N.D.
83	α,α-Bis[4-(dimethylamino)phenyl] -4(phenylamino)naphthalene- 1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	0.020	N.D.
84	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	0.005	N.D.
85	6-methoxy-m-toluidine(p-cresidine)	120-71-8	204-419-1	0.020	N.D.
86	Henicosafluoroundecanoic acid	2058-94-8	218-165-4	0.020	N.D.
87	Hexahydromethylphthalic anhydride [1], Hexahydro-4- methylphthalic anhydride [2], Hexahydro- 1-methylphthalic anhydride [3], Hexahydro- 3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
88	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane- 1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	201-604-9, 236-086-3, 238-009-9	0.020	N.D.
89	Dibutyltin dichloride(DBTC)	683-18-1	211-670-0	0.020	N.D.
90	Lead bis(tetrafluoroborate) *	13814-96-5	237-486-0	0.005	N.D.
91	Lead dinitrate*	10099-74-8	233-245-9	0.005	N.D.
92	Silicic acid, lead salt*	11120-22-2	234-363-3	0.005	N.D.
93	4-Aminoazobenzene	60-09-3	200-453-6	0.020	N.D.
94	Lead titanium zirconium oxide*	12626-81-2	235-727-4	0.005	N.D.
95	Lead monoxide (lead oxide) *	1317-36-8	215-267-0	0.005	N.D.
96	o-Toluidine	95-53-4	202-429-0	0.020	N.D.
97	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	0.020	N.D.
98	Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008] *	68784-75-8	272-271-5	0.005	N.D.
99	Trilead bis(carbonate) dihydroxide*	1319-46-6	215-290-6	0.005	N.D.
100	Furan	110-00-9	203-727-3	0.020	N.D.
101	N,N-dimethylformamide	68-12-2	200-679-5	0.020	N.D.
102	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	-	0.020	N.D.
103	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-	-	0.020	N.D.

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					01
104	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	0.020	N.D.
105	Diethyl sulphate	64-67-5	200-589-6	0.020	N.D.
106	Dimethyl sulphate	77-78-1	201-058-1	0.020	N.D.
107	Lead oxide sulfate*	12036-76-9	234-853-7	0.005	N.D.
108	Lead titanium trioxide*	12060-00-3	235-038-9	0.005	N.D.
109	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	0.005	N.D.
110	[Phthalato(2-)] dioxotrilead	69011-06-9	273-688-5	0.020	N.D.
111	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	214-604-9	0.020	N.D.
112	N-methylacetamide	79-16-3	201-182-6	0.020	N.D.
113	Dinoseb (6-sec-butyl-2,4- dinitrophenol)	88-85-7	201-861-7	0.020	N.D.
114	1,2-Diethoxyethane	629-14-1	211-076-1	0.020	N.D.
115	Tetralead trioxide sulphate	12202-17-4	235-380-9	0.020	N.D.
116	N-pentyl-isopentyl phthalate	776297-69-9	-	0.020	N.D.
117	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	0.005	N.D.
118	Tetraethyllead*	78-00-2	201-075-4	0.005	N.D.
119	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	0.005	N.D.
120	Pentacosafluorotridecanoic acid	72629-94-8	276-745-2	0.020	N.D.
121	Tricosafluorododecanoic acid	307-55-1	206-203-2	0.020	N.D.
122	Heptacosafluorotetradecanoic acid	376-06-7	206-803-4	0.020	N.D.
123	1-bromopropane (n-propyl bromide)	106-94-5	203-445-0	0.020	N.D.
124	Methoxyacetic acid	625-45-6	210-894-6	0.020	N.D.
125	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	202-453-1	0.020	N.D.
126	Methyloxirane (Propylene oxide)	75-56-9	200-879-2	0.020	N.D.
127	Trilead dioxide phosphonate*	12141-20-7	235-252-2	0.005	N.D.
128	o-aminoazotoluene	97-56-3	202-591-2	0.020	N.D.
129	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2	0.020	N.D.

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					01
130	4,4'-oxydianiline and its salts	101-80-4	202-977-0	0.020	N.D.
131	Orange lead (lead tetroxide)*	1314-41-6	215-235-6	0.005	N.D.
132	Biphenyl-4-ylamine	92-67-1	202-177-1	0.020	N.D.
133	Diisopentylphthalate	605-50-5	210-088-4	0.020	N.D.
134	Fatty acids, C16-18, lead salts	91031-62-8	292-966-7	0.020	N.D.
135	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	0.020	N.D.
136	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	0.005	N.D.
137	Lead cyanamidate*	20837-86-9	244-073-9	0.005	N.D.
138	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	-	0.020	N.D.
139	Cadmium	7440-43-9	231-152-8	0.005	N.D.
140	Ammonium pentadecafluorooctanoate(APFO)	3825-26-1	223-320-4	0.020	N.D.
141	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9	0.020	N.D.
142	Dipentyl phthalate(DPP)	131-18-0	205-017-9	0.020	N.D.
143	Cadmium oxide*	1306-19-0	215-146-2	0.005	N.D.
144	Cadmium sulphide*	1306-23-6	215-147-8	0.005	N.D.
145	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	0.020	N.D.
146	Dihexyl phthalate(DHP)	84-75-3	201-559-5	0.020	N.D.
147	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	202-506-9	0.020	N.D.
148	Trixylyl phosphate	25155-23-1	246-677-8	0.020	N.D.
149	Disodium 3,3'-[[1,1'-biphenyl]-4,4' -diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	0.020	N.D.

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					01
150	Lead di(acetate)*	301-04-2	206-104-4	0.005	N.D.
151	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5	0.020	N.D.
152	Sodium perborate; perboric acid, sodium salt*	-	239-172-9, 234-390-0	0.005	N.D.
153	Sodium peroxometaborate*	7632-04-4	231-556-4	0.005	N.D.
154	Cadmium chloride*	10108-64-2	233-296-7	0.005	N.D.
155	Bis (2-ethylhexyl) phthalate(DEHP)	117-81-7	204-211-0	0.020	N.D.
156	2-benzotriazol-2-yl-4,6-di-tert-butylphenol(UV-320)	3846-71-7	223-346-6	0.020	N.D.
157	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	239-622-4	0.020	N.D.
158	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-	0.020	N.D.
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol(UV-328)	25973-55-1	247-384-8	0.020	N.D.
160	Cadmium fluoride*	7790-79-6	232-222-0	0.005	N.D.
161	Cadmium sulphate*	10124-36-4, 31119-53-6	233-331-6	0.005	N.D.
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5, 68648-93-1	271-094-0, 272-013-1	0.020	N.D.
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	--	--	0.020	N.D.
164	1,3-propanesultone	1120-71-4	214-317-9	0.020	N.D.
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	0.020	N.D.
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	0.020	N.D.
167	Nitrobenzene	98-95-3	202-716-0	0.020	N.D.
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1, 21049-39-8, 4149-60-4	206-801-3	0.020	N.D.

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					01
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	200-028-5	0.020	N.D.
170	4,4'-isopropylidenediphenol (Bisphenol A)	80-05-7	201-245-8	0.020	N.D.
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	--	--	0.020	N.D.
172	4-Heptylphenol, branched and linear	--	--	0.020	N.D.
173	p-(1,1-dimethylpropyl) phenol	80-46-6	201-280-9	0.020	N.D.
174	Perfluorohexane-1-sulphonic acid and its salts(PFHxS)	--	--	0.020	N.D.
175	Chrysene	218-01-9, 1719-03-5	205-923-4	0.020	N.D.
176	Benz[a]anthracene	56-55-3, 1718-53-2	200-280-6	0.020	N.D.
177	Cadmium nitrate*	10022-68-1, 10325-94-7	233-710-6	0.005	N.D.
178	Cadmium carbonate*	513-78-0	208-168-9	0.005	N.D.
179	Cadmium hydroxide*	21041-95-2	244-168-5	0.005	N.D.
180	Dodecachloropentacyclo[12.2.1.16,9.02,13 .05,10]octadeca-7,15-diene (“Dechlorane Plus”™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	-	0.020	N.D.
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)]	-	-	0.020	N.D.
182	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride) (TMA)	552-30-7	209-008-0	0.020	N.D.
183	Dicyclohexyl phthalate(DCHP)	84-61-7	201-545-9	0.020	N.D.
184	Benzo[ghi]perylene	191-24-2	205-883-8	0.020	N.D.
185	Decamethylcyclopentasiloxane(D5)	541-02-6	208-764-9	0.020	N.D.
186	Disodium octaborate*	12008-41-2, 12280-03-4	234-541-0	0.005	N.D.
187	Dodecamethylcyclohexasiloxane(D6)	540-97-6	208-762-8	0.020	N.D.
188	Ethylenediamine(EDA)	107-15-3	203-468-6	0.020	N.D.
189	Lead*	7439-92-1	231-100-4	0.005	N.D.
190	Octamethylcyclotetrasiloxane(D4)	556-67-2	209-136-7	0.020	N.D.
191	Terphenyl, hydrogenated	61788-32-7	262-967-7	0.020	N.D.

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					01
192	1,7,7-trimethyl-3-(phenylmethylene)bicyclo [2.2.1]heptan-2-one; 3-benzylidene camphor; 3-BC	15087-24-8	239-139-9	0.020	N.D.
193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	401-720-1	0.020	N.D.
194	Benzo[k]fluoranthene	207-08-9	205-916-6	0.020	N.D.
195	Fluoranthene	206-44-0; 93951-69-0	205-912-4	0.020	N.D.
196	Phenanthrene	85-01-8	201-581-5	0.020	N.D.
197	Pyrene	129-00-0; 1718-52-1	204-927-3	0.020	N.D.

Note:
1. 1000mg/kg = 0.1%;
2. RL = Report Limit;
3. N.D. = Not Detected(<RL);
4. "*" = The test result is based on the calculation of selected element(s) / marker(s) and to the worst case;
5. The detail information for the SVHC published at website of ECHA: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
6. In accordance with Regulation (EC) No. 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, namely (a) the substance is present in those article in quantities totaling over one ton per producer or importer per year; and (b) the substance is present in those articles above a concentration of 0.1% weight by weight (w/w);
7. Article 33 of Regulation (EC) No. 1907/2006 requires supplier of an article containing a substance meets the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance.

Remark: This report replaces the report No. GNB190227140-01EN, Date: Mar. 07, 2019.

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GIG authenticate the photo(s) on original report only

*****End of Report*****

ORIGINAL

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Regulatory Information Sheet

colorFabb PLA/PHA

Date of issue: May 16, 2017
Version: v1.0

colorFabb PLA/PHA printing filament is produced from a material compound, which is in compliance with the following legal requirements (in each case including all amendments in their currently valid versions):

European Union Food Contact (Regulation (EU) 10/2011 Annex IV)

- EU-Framework Regulation on materials and articles intended for food contact: (EC) No 1935/2004 of 27 October 2004
- German Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch (LFGB) of 07 September 2005
- EU-Regulation on good manufacturing practice for materials and articles intended to come into contact with food: (EC) No. 2023/2006 of 22 December 2006

Specification of the intended use or limitations
Type or types of food with which it is intended to be put in contact: dry, aqueous, acidic and fatty foodstuffs

Time and temperature of treatment and storage in contact with the food: any condition of time at room temperature and below

Ratio of food contact surface area to volume used to establish the compliance of the material or article: 6 dm^2/kg food (maximum thickness 500 µm)

This compound is composed of substances listed in Annex I of Regulation EU No 10/2011 of 14. January 2011 only. For these substances no limitations and/or specifications have been stipulated in Regulation EU No 10/2011.

So called 'Dual Use Additives' are no part of this compound's recipe.

US Food and Drug Administration (FDA)
The raw materials of this compound meet the requirements of the US FDA for materials in contact with food: the US Food, Drug and Cosmetic Act of 1958 and applicable indirect food additive regulations of the United States of America as set out in the Code of Federal Regulations of the US Food and Drug Administration (FDA), provided the use is in accordance with good manufacturing practices.

For both aforementioned regulations the duty of care regarding the compliance of the compound within the legislation governing food contact applications has been fulfilled. It is the responsibility of every downstream user to verify the suitability of the compound for his own intended application. Liability for losses arising from inadequate use of the compound or any missing compliance is excluded.

Cosmetics Packaging
(Regulation (EU) 1223/2009 of November 30th 2009)
We confirm this compound is manufactured in accordance with this EU Regulation.

colorFabb B.V.
Bremweg 7
5951 DK Belfeld
The Netherlands

T +31 (0)77 – 4664015
F +31 (0)77 – 3971414
E sales@colorfabb.com
I colorfabb.com

KvK nr: 53498607
VAT nr: NL850902770B01
IBAN: NL54RABO0151849188
BIC: RABONL2U

Regulatory Information Sheet

colorFabb PLA/PHA

Date of issue: May 16, 2017
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Packaging waste
(Directive 94/62/EC of 20 December 1994)
The heavy metals cadmium, lead, mercury and chromiumVI are not intentionally used in the manufacture of this compound. The sum of the heavy metals cadmium, lead, mercury and chromiumVI incidentally present in this compound is below 100 ppm. Therefore the compound complies with the limits set out in Directive 94/62/EC.

RoHS
(Directive 2011/65/EU of 8 June 2011)
We hereby confirm that this compound is manufactured without the intentional use of the following chemical substances:

- Lead
- Mercury
- Cadmium
- Hexavalent chromium
- Polybrominated diphenyl ethers (PBDE).

PFOS
(Directive 2006/122/EC of 12 December 2006)
We confirm this compound is manufactured without the intentional use of perfluorooctane sulfonates.

Safety of Toys (EN 71-3)
This compound complies with the requirements of European standard EN 71 regarding the safety of toys part 3: “migration of certain elements”. Please note this standard refers to finished toys only.

VOC
(Swiss ordinance on Volatile Organic Compounds (VOC) of 12 November 1997)
This compound is in compliance with the Swiss Ordinance on volatile organic compounds (VOC).

TSCA
(US Toxic Substances Control Act)
We confirm the listing of all raw materials of this compound within the TSCA inventory.

Allergens
This compound is manufactured without the intentional use of substances currently known to be or suspected of being food allergens. Furthermore it is manufactured without the use of ingredients listed in Annex IIIa of Directive 2007/86/EC and Annex III LMKV.

Active and intelligent materials (Regulation (EC) No. 450/2009)
This compound is manufactured without the use of active and intelligent materials.

Recycling (Regulation (EC) No. 282/2008)
This compound is manufactured without any recycled plastic materials.

BSE infection
This compound is manufactured without any derivatives of animal origin. There is no scientific reason to assume any risk of BSE transfer through this compound.

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Other absent substances
Furthermore we confirm that this compound is manufactured without the use of the following substances:

- Primary aromatic amines
- Polycyclic aromatic hydrocarbons (PAH)
- Phenols & Phenyphenole
- Bisphenol A and its derivatives
- Bisphenol F and its derivatives
- Bisphenol S and its derivatives
- Phthalates
- Adipates
- Maleicacid-di-(2-ethylhexyl)-ester
- Formaldehyde
- 2,2'-Dimethoxy-2-phenylacetophenone
- 2,4-Pentadione (synonyme acetylacetone)
- Acrylamide
- Adsorbable organically combined halogens (AOX)
- Azo dyes
- Benzophenone and 4-methylbenzophenone and their derivatives
- Brominated fire retardants
- Cobalt(II)-chloride (CAS 7646-79-9 (anhydrous))
- Cyanuric acid (1,3,5-triazin-2,4,6-triol)
- Dimethylfumarate (DMF)
- Elastomers or rubber from which n-nitrosamines may be released
- Epoxidised soybean oil (ESBO)
- 2,2-Bis(4-hydroxyphenyl)propane bis(2,3-epoxypropyl) ether (BADGE)
- Bis(-hydroxyphenyl)methane-bis-(2,3-epoxypropyl)ether (BFDGE)
- Novolac glycidyl ethers (NOGE)
- Ethyl-4-dimethylaminobenzoate
- Halogens
- Isopropylthioxanthone (ITX)
- Latex
- Melamine
- Chain- and ring-shaped hydrocarbons (MOSH, "mineral oil saturated hydrocarbons")
- Aromatic hydrocarbons (MOAH, "mineral oil aromatic hydrocarbons")
- Nanoparticles and -materials (< 100 nm)
- Diphenyl-2-ethylhexylphosphate (DPO)
- Tributyltin oxide (TBTO)
- Tributyltin (TBT)
- Perfluorinated organic compounds & Fluorinated surfactants
- Perfluorooctanoic acid (PFOA)
- Polycyclic aromatic hydrocarbons (PAHs)
- Semicarbazide (SEM)
- Titan-acetylacetonate (TAA)
- Triclosan
- Vinylchloride

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Regulatory Information Sheet

colorFabb PLA/PHA

Date of issue: May 16, 2017
Version: v1.0

Liability Limitation
Please note that this compound has not been tested for trace amounts of the substances aforementioned or listed within the regulations. However, based on the information obtained from upstream suppliers there is no reason to expect any of the substances listed to be present within this compound.

The values listed have been established on standardized test specimens at standard temperature and humidity conditions. The figures should be considered as guide values only. Under certain conditions the processing conditions can have a significant influence on the properties .

Customers must undertake their own determination of this product's suitability and completeness for their own use, for the protection of the environment, for the health and safety of their employees and purchasers of their products. No warranty is made of the merchantability or fitness of any product, and nothing herein waives any of the seller's conditions of sale.

The content of this document is strictly confidential and should not be passed on to third parties. However in case your customer requires this information in order to assess compliance as required by law, you are entitled to pass them on to the customer or a neutral institute given the information is treated strictly confidential also by them.

If further information is required please do not hesitate to contact us.

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Technical datasheet

colorFabb PLA Economy

Date of issue: Feb 01, 2020
Version: v1.0

ColorFabb PLA Economy is a high quality PLA 3D printing filament, impact modified to improve toughness. PLA Economy is available on large 2,2 kg spools in a limited amount of colors.

TYPICAL MATERIAL PROPERTIES

Physical properties	Unit	Value	Method
Density	g/cm3	1,2 - 1,3	
Glass Transition Temperature	ºC	55 - 60	DSC
Tensile Strength	MPa	45	ISO 527-1
Tensile Modulus	MPa	3400	ISO 527-1
Tensile Elongation	%	6	ISO 727-1
Impact Strength (Ch-N 23ºC)	kJ/m^2	7	ISO 179-1

FILAMENT SPECIFICATION

Nominal diameter:	Diameter tolerance	Ovality
1,75 mm	± 0,05	≥ 95%
2,85 mm	± 0,10	≥ 95%

Available colors:	EU 10/2011	FDA CFR21	RoHS (2011/65/EU)	REACH
White	Y	Y	Y	Y
Black	Y	Y	Y	Y
Silver	N	N	Y	Y
Red	N	N	Y	Y

Netto filament weight 2,2 kg

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	195 - 220ºC
Bed temperature	50 - 60ºC
Bed surface / modification	Tape or glue
Active cooling fan	100%
Print speed	40-80 mm/s

Disclaimer
The product- and technical information provided in this datasheet is correct to the best of our knowledge. The information given is provided as a guidance for good use, handling and processing and is not to be considered as a quality specification. The information only relates to the specific product and the material properties.

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We create chemistry

BASF SE, 67056 Ludwigshafen, Deutschland

24th February 2021

BASF SE
Dr. Oliver Schmid
E-PME/PU
67056 Ludwigshafen, Germany

oliver.schmid@basf.com

Product Information: REACH Compliance

Dear Sir or Madam;

The BASF products mentioned below and purchased from BASF in Europe are compliant with EC Regulation 1907/2006 (REACH) to the extent that they are being supplied from within the EU or the European Economic Area.

REACH compliant means that all relevant substances are:

- excluded from the regulation, and/or
- exempted from registration, and/or
- had been manufactured/imported under a valid pre-registration until May 31, 2018 and/or
- have been registered.

This statement applies to the following product lines:

3S Modifier	**BASOTECT®**	**CAPRON®**
ECOFLEX®	**ECOVIO®**	**NEOPOLEN®**
ULTRADUR®	**ULTRAFORM®**	**ULTRAFORM® AT**
ULTRAMID®	**ULTRASON®**	**POM N**

BASF SE
67056 Ludwigshafen, Deutschland

Phone: +49 621 60-0
Fax: +49 621 60-42525
E-Mail: global.info@basf.com
Internet: www.basf.com

Registered Office:
67056 Ludwigshafen

Registration Court:
Amtsgericht Ludwigshafen
Registration No.: HRB 6000

Chairman of the Supervisory Board:
Kurt Bock

Board of Executive Directors:
Martin Brudermueller Chairman;
Hans-Ulrich Engel, Vice Chairman;
Saori Dubourg, Michael Heinz,
Markus Kamieth, Melanie Maas-Brunner,
Wayne T. Smith

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The information provided in this declaration is based on our current knowledge and experience, and on the state of the REACH regulation on the date of issue. New certificates are published in the internet portal in case of alterations; the former certificates automatically become void. Therefore, we urgently ask you in your own interest to regularly check the confirmations issued in the internet portal with respect to modifications or changes. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

This product information was generated electronically and is valid without signature.

BASF SE

This information is believed to be accurate and refers to the laws, regulations and products at the date of issue. However, BASF makes no express or implied representations or warranties with respect to the information contained herein. It is the sole responsibility of our customers to determine that their use of BASF products is safe, lawful, and technically suitable for their applications. Because of possible changes in the laws and regulations, we cannot guarantee that the status of this product will remain unchanged.

REGULATORY INFORMATION SHEET
Flex Medium

1. PRODUCT IDENTIFICATION

TRADE NAME	Extrudr Flex Medium
MANUFACTURER	FD3D GmbH Klosterstrasse 13 6923 Lauterach AUSTRIA info@extrudr.com
USE OF PRODUCT	Thermoplastic Polyurethane, suitable for 3D printing filament

2. U.S. FOOD AND DRUG ADMINISTRATION (FDA)

The raw materials of this compound are compliant with the requirements of the US FDA for materials in contact with food:
the US Food, Drug and Cosmetic Act of 1958 and applicable indirect food additive regulations of the United States of America as set out in the Code of Federal Regulations of the U.S. Food and Drug Administration (FDA), provided the use is in accordance with good manufacturing practices. For both aforementioned regulations the duty of care regarding the compliance of the compound within the legislation governing food contact applications has been fulfilled. It is the responsibility of every downstream user to verify the suitability of the compound for their own intended application. Liability for losses arising from inadequate use of the compound or any missing compliance is excluded.

3. REACH & ECHA

The material is free of Substance of Very High Concern (SVHS) listed in the REACh Candidate List by the ECHA on the 07. July 2017 is present in a concentration above 0,1%.

4. LIABILITY LIMITATION

Please note that this compound has not been tested for trace amounts of the substances aforementioned or listed within the regulations. However, based on the information obtained from upstream suppliers there is no reason to expect any of the substances listed to be present within this compound. The values listed have been established on standardized test specimens at standard temperature and humidity conditions. The figures should be considered as guide values only. Under certain conditions the processing conditions can have a significant influenceon the properties.

FD3D GmbH shall not be liable for the use of this information or of any product, method or equipment mentioned. Customers must undertake their own determination of this product's suitability and completeness for their own use, for the protection of the environment, for the health and safety of their employees and purchasers of their products. No warranty is made of the merchantability or fitness of any product, and nothing herein waives any of the seller'sconditions of sale.

Test Report

The following information was/were submitted and identified by/on behalf of the client:

Applicant	:	JF Polymers(Suzhou) Co.,Ltd.
Address	:	Haicheng Industrial Park,Bldg 7,Changshu Economic and Technological Zone,Changshu,Jiangsu Province ,China
Sample Name	:	PolyLite ™ASA
Sample Model	:	Filament
Sample Receive Date	:	Feb. 27, 2019
Sample Testing Period	:	Feb. 27, 2019 - Mar. 07, 2019

Test Result Summary:

As requested by the applicant, for details refer to attached page(s).

TEST ITEM(S)	TEST REQUESTED	RESULT(S)
One hundred and Ninety-seven(197) substances content in SVHC	ECHA's SVHC candidate on and before Jan. 15, 2019 of European Commission Regulation 1907/2006/EC concerning the REACH	LESS THAN 0.1% (w/w)

ORIGINAL

Authorized signature:

Lab Manager: Gavin Zhou

Mar. 08, 2019

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Test Result(s):

Test Sample Description:

Material No.	Material Description
01	Beige-white plastic string

SVHC content

Reference Method:
1) US EPA 3540C: 1996 & US EPA 8270D: 2007
2) US EPA 3550C: 2007 & US EPA 8270D: 2007
3) US EPA 3050B: 1996 & US EPA 6010C: 2007
4) US EPA 3052: 1996 & US EPA 6010C: 2007
5) US EPA 3060A: 1996 & US EPA 7196A: 1992
6) US EPA 3550C: 2007 & US EPA 8321B: 2007
7) US EPA 8260B: 1996
8) ISO 3613: 2010
9) EN 14582: 2016
10) EN ISO 14362-1: 2017

NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
1	Anthracene	120-12-7	204-371-1	0.020	N.D.
2	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	202-974-4	0.020	N.D.
3	Dibutyl phthalate (DBP)	84-74-2	201-557-4	0.020	N.D.
4	Cobalt dichloride*	7646-79-9	231-589-4	0.005	N.D.
5	Diarsenic pentaoxide*	1303-28-2	215-116-9	0.005	N.D.
6	Diarsenic trioxide*	1327-53-3	215-481-4	0.005	N.D.
7	Sodium dichromate*	7789-12-0, 10588-01-9	234-190-3	0.005	N.D.
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	0.020	N.D.
9	Hexabromocyclododecane (HBCDD)	25637-99-4, 3194-55-6	247-148-4, 221-695-9	0.020	N.D.
10	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	0.020	N.D.
11	Bis(tributyltin)oxide(TBTO)	56-35-9	200-268-0	0.020	N.D.
12	Lead hydrogen arsenate*	7784-40-9	232-064-2	0.005	N.D.
13	Triethyl arsenate*	15606-95-8	427-700-2	0.005	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
14	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	0.020	N.D.
15	Anthracene oil	90640-80-5	292-602-7	0.020	N.D.
16	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	0.020	N.D.
17	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	0.020	N.D.
18	Anthracene oil, anthracene-low	90640-82-7	292-604-8	0.020	N.D.
19	Anthracene oil, anthracene paste	90640-81-6	292-603-2	0.020	N.D.
20	Pitch, coal tar, high temp.	65996-93-2	266-028-2	0.020	N.D.
21	Diisobutyl phthalate (DIBP)	84-69-5	201-553-2	0.020	N.D.
22	2,4-Dinitrotoluene	121-14-2	204-450-0	0.020	N.D.
23	Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	0.020	N.D.
24	Lead chromate*	7758-97-6	231-846-0	0.005	N.D.
25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) *	12656-85-8	235-759-9	0.005	N.D.
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34) *	1344-37-2	215-693-7	0.005	N.D.
27	Acrymide	79-06-1	201-173-7	0.020	N.D.
28	Trichloroethylene	79-01-6	201-167-4	0.020	N.D.
29	Boric acid*	10043-35-3, 1113-50-1	233-139-2, 234-343-4	0.005	N.D.
30	Disodium tetraborate, anhydrous*	1303-96-4, 1330-43-4, 12179-04-3	215-540-4	0.005	N.D.
31	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	0.005	N.D.
32	Sodium chromate*	7775-11-3	231-889-5	0.005	N.D.
33	Ammonium dichromate*	7789-09-5	232-143-1	0.005	N.D.
34	Potassium chromate*	7789-00-6	232-140-5	0.005	N.D.
35	Potassium dichromate*	7778-50-9	231-906-6	0.005	N.D.
36	Cobalt(Ⅱ) sulphate*	10124-43-3	233-334-2	0.005	N.D.
37	Cobalt(Ⅱ) dinitrate*	10141-05-6	233-402-1	0.005	N.D.
38	Cobalt(Ⅱ) carbonate*	513-79-1	208-169-4	0.005	N.D.
39	Cobalt(Ⅱ) diacetate*	71-48-7	200-755-8	0.005	N.D.
40	2-Methoxyethanol	109-86-4	203-713-7	0.020	N.D.
41	2-Ethoxyethanol	110-80-5	203-804-1	0.020	N.D.
42	Chromium trioxide*	1333-82-0	215-607-8	0.005	N.D.
43	Chromic acid, dichromic acid, Oligomers of chromic acid, and dichromic acid*	7738-94-5, 13530-68-2	231-801-5, 236-881-5	0.005	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s) 01
44	Strontium chromate*	7789-06-2	232-142-6	0.005	N.D.
45	2-ethoxyethyl acetate	111-15-9	203-839-2	0.020	N.D.
46	Hydrazine	302-01-2, 7803-57-8	206-114-9	0.020	N.D.
47	1-Methyl-2-pyrrolidone	872-50-4	212-828-1	0.020	N.D.
48	1,2,3-trichloropropane	96-18-4	202-486-1	0.020	N.D.
49	1,2-Benzenedicarboxylic acid, di-C7 -11-branched and linear alkyl esters	68515-42-4	271-084-6	0.020	N.D.
50	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	276-158-1	0.020	N.D.
51	Dichromium tris(chromate) *	24613-89-6	246-356-2	0.005	N.D.
52	Potassium hydroxy-octaoxodizincatedichromate*	11103-86-9	234-329-8	0.005	N.D.
53	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	0.005	N.D.
54	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) *	Index number: 650-017-00-8		0.005	N.D.
55	Aluminosilicate Refractory Ceramic Fibres (RCF) *	Index number: 650-017-00-8		0.005	N.D.
56	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-1	0.020	N.D.
57	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	0.020	N.D.
58	2-Methoxyaniline /o-Anisidine	90-04-0	201-963-1	0.020	N.D.
59	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2	0.020	N.D.
60	1,2-Dichloroethane	107-06-2	203-458-1	0.020	N.D.
61	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	0.020	N.D.
62	Arsenic acid*	7778-39-4	231-901-9	0.005	N.D.
63	Calcium arsenate*	7778-44-1	231-904-5	0.005	N.D.
64	Trilead diarsenate*	3687-31-8	222-979-5	0.005	N.D.
65	N,N-dimethylacetamide	127-19-5	204-826-4	0.020	N.D.
66	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	202-918-9	0.020	N.D.
67	Phenolphthalein	77-09-8	201-004-7	0.020	N.D.
68	Lead diazide, Lead azide*	13424-46-9	236-542-1	0.005	N.D.
69	Lead styphnate*	15245-44-0	239-290-0	0.005	N.D.
70	Lead dipicrate*	6477-64-1	229-335-2	0.005	N.D.
71	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	0.020	N.D.
72	Lead(II) bis(methanesulfonate)	17570-76-2	401-750-5	0.005	N.D.
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether(EGDME)	110-71-4	203-794-9	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
74	Diboron trioxide*	1303-86-2	215-125-8	0.005	N.D.
75	Formamide	75-12-7	200-842-0	0.020	N.D.
76	1,3,5-tris(oxiranylmethyl)-1,3,5 -triazine-2,4,6-trione (TGIC)	2451-62-9	219-514-3	0.020	N.D.
77	1,3,5-tris[(2S and 2R)-2,3 - epoxypropyl]-1,3,5-triazine -2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	423-400-0	0.020	N.D.
78	4,4'-bis(dimethylamino) benzophenone	90-94-8	202-027-5	0.020	N.D.
79	N,N,N',N'-tetramethyl-4,4' -methylenedianiline	101-61-1	202-959-2	0.020	N.D.
80	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl] methylene]cyclohexa-2,5- dien- 1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5	219-943-6	0.020	N.D.
81	[[4-[4,4'-bis(dimethylamino) benz -hydrylidene]cyclohexa -2,5-dien -1-ylidene] dimethylam-monium chloride (C.I. Basic Violet 3)	548-62-9	208-953-6	0.020	N.D.
82	4,4'-bis(dimethylamino)-4'' -(methylamino)trityl alcohol	561-41-1	209-218-2	0.020	N.D.
83	α,α-Bis[4-(dimethylamino)phenyl] -4(phenylamino)naphthalene- 1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	0.020	N.D.
84	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	0.005	N.D.
85	6-methoxy-m-toluidine(p-cresidine)	120-71-8	204-419-1	0.020	N.D.
86	Henicosafluoroundecanoic acid	2058-94-8	218-165-4	0.020	N.D.
87	Hexahydromethylphthalic anhydride [1], Hexahydro-4- methylphthalic anhydride [2], Hexahydro- 1-methylphthalic anhydride [3], Hexahydro- 3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
88	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane- 1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	201-604-9, 236-086-3, 238-009-9	0.020	N.D.
89	Dibutyltin dichloride(DBTC)	683-18-1	211-670-0	0.020	N.D.
90	Lead bis(tetrafluoroborate) *	13814-96-5	237-486-0	0.005	N.D.
91	Lead dinitrate*	10099-74-8	233-245-9	0.005	N.D.
92	Silicic acid, lead salt*	11120-22-2	234-363-3	0.005	N.D.
93	4-Aminoazobenzene	60-09-3	200-453-6	0.020	N.D.
94	Lead titanium zirconium oxide*	12626-81-2	235-727-4	0.005	N.D.
95	Lead monoxide (lead oxide) *	1317-36-8	215-267-0	0.005	N.D.
96	o-Toluidine	95-53-4	202-429-0	0.020	N.D.
97	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	0.020	N.D.
98	Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008] *	68784-75-8	272-271-5	0.005	N.D.
99	Trilead bis(carbonate) dihydroxide*	1319-46-6	215-290-6	0.005	N.D.
100	Furan	110-00-9	203-727-3	0.020	N.D.
101	N,N-dimethylformamide	68-12-2	200-679-5	0.020	N.D.
102	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	-	0.020	N.D.
103	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-	-	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
104	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	0.020	N.D.
105	Diethyl sulphate	64-67-5	200-589-6	0.020	N.D.
106	Dimethyl sulphate	77-78-1	201-058-1	0.020	N.D.
107	Lead oxide sulfate*	12036-76-9	234-853-7	0.005	N.D.
108	Lead titanium trioxide*	12060-00-3	235-038-9	0.005	N.D.
109	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	0.005	N.D.
110	[Phthalato(2-)] dioxotrilead	69011-06-9	273-688-5	0.020	N.D.
111	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	214-604-9	0.020	N.D.
112	N-methylacetamide	79-16-3	201-182-6	0.020	N.D.
113	Dinoseb (6-sec-butyl-2,4- dinitrophenol)	88-85-7	201-861-7	0.020	N.D.
114	1,2-Diethoxyethane	629-14-1	211-076-1	0.020	N.D.
115	Tetralead trioxide sulphate	12202-17-4	235-380-9	0.020	N.D.
116	N-pentyl-isopentyl phthalate	776297-69-9	-	0.020	N.D.
117	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	0.005	N.D.
118	Tetraethyllead*	78-00-2	201-075-4	0.005	N.D.
119	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	0.005	N.D.
120	Pentacosafluorotridecanoic acid	72629-94-8	276-745-2	0.020	N.D.
121	Tricosafluorododecanoic acid	307-55-1	206-203-2	0.020	N.D.
122	Heptacosafluorotetradecanoic acid	376-06-7	206-803-4	0.020	N.D.
123	1-bromopropane (n-propyl bromide)	106-94-5	203-445-0	0.020	N.D.
124	Methoxyacetic acid	625-45-6	210-894-6	0.020	N.D.
125	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	202-453-1	0.020	N.D.
126	Methyloxirane (Propylene oxide)	75-56-9	200-879-2	0.020	N.D.
127	Trilead dioxide phosphonate*	12141-20-7	235-252-2	0.005	N.D.
128	o-aminoazotoluene	97-56-3	202-591-2	0.020	N.D.
129	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
130	4,4'-oxydianiline and its salts	101-80-4	202-977-0	0.020	N.D.
131	Orange lead (lead tetroxide)*	1314-41-6	215-235-6	0.005	N.D.
132	Biphenyl-4-ylamine	92-67-1	202-177-1	0.020	N.D.
133	Diisopentylphthalate	605-50-5	210-088-4	0.020	N.D.
134	Fatty acids, C16-18, lead salts	91031-62-8	292-966-7	0.020	N.D.
135	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	0.020	N.D.
136	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	0.005	N.D.
137	Lead cyanamidate*	20837-86-9	244-073-9	0.005	N.D.
138	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	-	0.020	N.D.
139	Cadmium	7440-43-9	231-152-8	0.005	N.D.
140	Ammonium pentadecafluorooctanoate(APFO)	3825-26-1	223-320-4	0.020	N.D.
141	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9	0.020	N.D.
142	Dipentyl phthalate(DPP)	131-18-0	205-017-9	0.020	N.D.
143	Cadmium oxide*	1306-19-0	215-146-2	0.005	N.D.
144	Cadmium sulphide*	1306-23-6	215-147-8	0.005	N.D.
145	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	0.020	N.D.
146	Dihexyl phthalate(DHP)	84-75-3	201-559-5	0.020	N.D.
147	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	202-506-9	0.020	N.D.
148	Trixylyl phosphate	25155-23-1	246-677-8	0.020	N.D.
149	Disodium 3,3'-[[1,1'-biphenyl]-4,4' -diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
150	Lead di(acetate)*	301-04-2	206-104-4	0.005	N.D.
151	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5	0.020	N.D.
152	Sodium perborate; perboric acid, sodium salt*	-	239-172-9, 234-390-0	0.005	N.D.
153	Sodium peroxometaborate*	7632-04-4	231-556-4	0.005	N.D.
154	Cadmium chloride*	10108-64-2	233-296-7	0.005	N.D.
155	Bis (2-ethylhexyl) phthalate(DEHP)	117-81-7	204-211-0	0.020	N.D.
156	2-benzotriazol-2-yl-4,6-di-tert-butylphenol(UV-320)	3846-71-7	223-346-6	0.020	N.D.
157	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	239-622-4	0.020	N.D.
158	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-	0.020	N.D.
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol(UV-328)	25973-55-1	247-384-8	0.020	N.D.
160	Cadmium fluoride*	7790-79-6	232-222-0	0.005	N.D.
161	Cadmium sulphate*	10124-36-4, 31119-53-6	233-331-6	0.005	N.D.
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5, 68648-93-1	271-094-0, 272-013-1	0.020	N.D.
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	--	--	0.020	N.D.
164	1,3-propanesultone	1120-71-4	214-317-9	0.020	N.D.
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	0.020	N.D.
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	0.020	N.D.
167	Nitrobenzene	98-95-3	202-716-0	0.020	N.D.
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1, 21049-39-8, 4149-60-4	206-801-3	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s) 01
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	200-028-5	0.020	N.D.
170	4,4'-isopropylidenediphenol (Bisphenol A)	80-05-7	201-245-8	0.020	N.D.
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	--	--	0.020	N.D.
172	4-Heptylphenol, branched and linear	--	--	0.020	N.D.
173	p-(1,1-dimethylpropyl) phenol	80-46-6	201-280-9	0.020	N.D.
174	Perfluorohexane-1-sulphonic acid and its salts(PFHxS)	--	--	0.020	N.D.
175	Chrysene	218-01-9, 1719-03-5	205-923-4	0.020	N.D.
176	Benz[a]anthracene	56-55-3, 1718-53-2	200-280-6	0.020	N.D.
177	Cadmium nitrate*	10022-68-1, 10325-94-7	233-710-6	0.005	N.D.
178	Cadmium carbonate*	513-78-0	208-168-9	0.005	N.D.
179	Cadmium hydroxide*	21041-95-2	244-168-5	0.005	N.D.
180	Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	-	0.020	N.D.
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)]	-	-	0.020	N.D.
182	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride) (TMA)	552-30-7	209-008-0	0.020	N.D.
183	Dicyclohexyl phthalate(DCHP)	84-61-7	201-545-9	0.020	N.D.
184	Benzo[ghi]perylene	191-24-2	205-883-8	0.020	N.D.
185	Decamethylcyclopentasiloxane(D5)	541-02-6	208-764-9	0.020	N.D.
186	Disodium octaborate*	12008-41-2, 12280-03-4	234-541-0	0.005	N.D.
187	Dodecamethylcyclohexasiloxane(D6)	540-97-6	208-762-8	0.020	N.D.
188	Ethylenediamine(EDA)	107-15-3	203-468-6	0.020	N.D.
189	Lead*	7439-92-1	231-100-4	0.005	N.D.
190	Octamethylcyclotetrasiloxane(D4)	556-67-2	209-136-7	0.020	N.D.
191	Terphenyl, hydrogenated	61788-32-7	262-967-7	0.020	N.D.

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NO.	Substance Name	CAS No.	EC No.	RL(%)	Result(s)
					01
192	1,7,7-trimethyl-3-(phenylmethylene)bicyclo [2.2.1]heptan-2-one; 3-benzylidene camphor; 3-BC	15087-24-8	239-139-9	0.020	N.D.
193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	401-720-1	0.020	N.D.
194	Benzo[k]fluoranthene	207-08-9	205-916-6	0.020	N.D.
195	Fluoranthene	206-44-0; 93951-69-0	205-912-4	0.020	N.D.
196	Phenanthrene	85-01-8	201-581-5	0.020	N.D.
197	Pyrene	129-00-0; 1718-52-1	204-927-3	0.020	N.D.

Note:
1. 1000mg/kg = 0.1%;
2. RL = Report Limit;
3. N.D. = Not Detected(<RL);
4. "*" = The test result is based on the calculation of selected element(s) / marker(s) and to the worst case;
5. The detail information for the SVHC published at website of ECHA: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
6. In accordance with Regulation (EC) No. 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, namely (a) the substance is present in those article in quantities totaling over one ton per producer or importer per year; and (b) the substance is present in those articles above a concentration of 0.1% weight by weight (w/w);
7. Article 33 of Regulation (EC) No. 1907/2006 requires supplier of an article containing a substance meets the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance.

Remark: This report replaces the report No. GNB190227143-01EN, Date: Mar. 07, 2019.

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Sample Photo(s):

GIG authenticate the photo(s) on original report only

*****End of Report*****

ORIGINAL

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环谱检测
HAP Testing

检 测 报 告

江苏环谱检测技术服务有限公司
JiangSu HAP Testing Service Co.,Ltd.

Test Report

Report No.: HAP17106585503

Applicant	JF Polymers(Suzhou) Co.,Ltd.
Address	Haicheng Industrial Park,Bldg 7,Changshu Econimic and Technological Zone,Changshu,Jiangsu Province ,China

Report on the submitted sample(s) said to be

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

Sample Name	1# PolyLite PETG
Sample Wire Diameter	1.75mm / 2.85mm
Sample Colour	Black / white
Sample Received Date	Oct.10,2017
Testing Period	Oct.10,2017 to Oct.16,2017

Testing Requested

As per client's request,

（1）According to European Commission Regulation 1907/2006(REACH Act),to test the SVHC content which have been listed in ECHA's SVHC candidate list till 2017/07/07;http://echa.europa.eu/web/guest/candidate-list-table

（2）to determine the RoHS 6 (Pb,Cd,Hg,Cr^{6+}, PBBs, PBDEs) in the submitted sample according to RoHS Directive 2011/65/EU Annex II;

（3）to determine the Polynuclear Aromatic Hydrocarbons（PAHs）content in the submitted sample according to AfPS GS 2014:01 PAK .

Testing Results

Please refer to next page(s)

Conclusion

According to the analytical results,

（1）concentrations of 174 SVHC substances are all less than 0.1% in the sub mitted sample.Please refer to next page(s);

（2）Based on the test samples,the test results of Cadmium(Cd),Lead(Pb),Mercury(Hg),Hexavalent Chromium (Cr^{6+}),The sum of Polybrominated Biphenyls(PBBs) and The sum of Polybrominated Diphenyl Ethers(PBDEs) comply with the limits as set by RoHS Directive 2011/65/EUAnnex II,recasting 2002/95/EC.

Signer : _____ Date : Oct.16.2017

JIANGSU HAP TESTING SERVICE CO.,LTD 检验检测专用章

Test Report

1. Determination of REACH-SVHC （unit：%）

Testing method In-house method with reference to AfPS GS 2014:01 PAK,EPA 3550C:2007,EPA 3052:1996,EPA 6010C:2007,EPA 5021:1996,EPA 8270D:2007,IEC 62321:2008,EN 14362-1:2012,DIN EN ISO 17353:2005, By GC-MS, HPLC,UV-VIS, ICP-OES for measuring.

No.	Testing Item(s)	CASNo.	EC No.	MDL	1#*****
1	Anthracene	120-12-7	204-371-1	0.005	ND
2	4,4'-diaminodiphenylmethane（MDA）	101-77-9	202-974-4	0.005	ND
3	Dibutyl Phthalate (DBP)	84-74-2	201-557-4	0.005	ND
4	Cobalt dichloride*	7646-79-9	231-589-4	—	ND
5	Diarsenic pentaoxide*	1303-28-2	215-116-9	—	ND
6	Diarsenic trioxide*	1327-53-3	215-481-4	—	ND
7	Sodium dichromate*	7789-12-0/10588-01-09	234-190-3	—	ND
8	5-tert-butyl-2,4,6-trinitro-m-xylene(Musk xylene)	81-15-2	201-329-4	0.005	ND
9	Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	204-211-0	0.005	ND
10	Hexabromocyclododecane（HBCDD）and all major diastereoisomers identified:Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4/3194-55-6	247-148-4/221-695-9	0.005	ND
11	Short Chain Chlorinated Paraffins（SCCPs）	85535-84-8	287-476-5	0.01	ND
12	Bis（tributyltin）oxide（TBTO）**	56-35-9	200-268-0	0.05	ND
13	Lead hydrogen arsenate*	7784-40-9	232-064-2	—	ND
14	Benzylbutyl Phthalate (BBP)	85-68-7	201-622-7	0.005	ND
15	Triethyl arsenate*	15606-95-8	427-700-2	—	ND
16	Anthracene oil	90640-80-5	292-602-7	0.05	ND
17	Anthracene oil,anthracene paste,distn.Lights	91995-17-4	295-278-5	0.05	ND
18	Anthracene oil,anthracene paste,anthracene fraction	91995-15-2	295-275-9	0.05	ND
19	Anthracene oil,anthracene-low	90640-82-7	292-604-8	0.05	ND
20	Anthracene oil,anthracene paste	90640-81-6	292-603-2	0.05	ND
21	Coal tar pitch,high temperature	659969-93-2	266-028-2	0.05	ND

Test Report

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
22	2,4-Dinitrotoluene	121-14-2	204-450-0	0.01	ND
23	Diisobutyl phthalate（DIBP）	84-69-5	201-553-2	0.005	ND
24	Lead chromate*	7758-97-6	231-846-0	—	ND
25	Lead chromate molybdate sulphate red（C.I.Pigment Red 104）*	12656-85-8	235-759-9	—	ND
26	Lead sulfochromate yellow（C.I.Pigment Yellow 34）*	1344-37-2	215-693-7	—	ND
27	Tris（2-chloroethyl）phosphate（TCEP）	115-96-8	204-118-5	0.01	ND
28	Acrylamide	79-06-1	201-173-7	0.01	ND
29	Trichloroethylene	79-01-6	201-167-4	0.005	ND
30	Boric acid*	10043-35-3 11113-50-1	233-139-2 234-343-4	—	ND
31	Disodium tetraborate,anhydrous*	1330-43-4 12179-04-3 1303-96-4	215-540-4	—	ND
32	Tetraboron disodium heptaoxide,hydrate*	12267-73-1	235-541-3	—	ND
33	Sodium chromate*	7775-11-3	231-889-5	—	ND
34	Potassium chromate*	7789-00-6	232-140-5	—	ND
35	Ammonium dichromate*	7789-09-5	232-143-1	—	ND
36	Potassium dichromate*	7778-50-9	231-906-6	—	ND
37	Cobalt(II) sulphate *	10124-43-3	233-334-2	—	ND
38	Cobalt(II) dinitrate *	10141-05-6	233-402-1	—	ND
39	Cobalt(II) carbonate*	513-79-1	208-169-4	—	ND
40	Cobalt(II) diacetate *	71-48-7	200-755-8	—	ND
41	2-Methoxyethanol	109-86-4	203-713-7	0.01	ND
42	2-Ethoxyethanol	110-80-5	203-804-1	0.01	ND
43	Chromium trioxide*	1333-82-0	215-607-8	—	ND
44	Chromic acid、Dichromic acid、acids generated from chromium trioxide and their oligomers*	7738-94-5; 13530-68-2	231-801-5,236-881-5	—	ND
45	2-ethoxyethyl acetate	111-15-9	203-839-2	0.05	ND

Test Report

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
46	strontium chromate （1,2-Benzenedic ）*	7789-6-2	232-142-6	—	ND
47	1,2-Benzenedicarboxylic acid,di-(C7-11)-branched and linear alkyl esters	68515-42-4	271-084-6	0.01	ND
48	Hydrazine	7803-57-8、302-01-2	206-114-9	0.05	ND
49	1-Methyl-2-pyr rolidinone	872-50-4	212-828-1	0.01	ND
50	1,2,3-trichlor opropane （1,2-Benzenedic）	96-18-4	202-486-1	0.01	ND
51	1,2-Benzenedicarboxylic acid,di-(C6-8)-branched alkyl esters,C7-rich	71888-89-6	276-158-1	0.01	ND
52	Dichromium tris(chromate)*	24613-89-6	246-356-2	—	ND
53	Potassium hydroxyoctaoxodizincatedi-chromate*	11103-86-9	234-329-8	—	ND
54	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	—	ND
55	Aluminosilicate Refractory Ceramic Fibres (RCF)***	—	650-017-00-8	0.05	ND
56	Zirconia Aluminosilicate Refractory Ceramic Fibres***	—	650-017-00-8	0.05	ND
57	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-01	0.05	ND
58	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	0.005	ND
59	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	0.01	ND
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	205-426-2	0.01	ND
61	1,2-Dichloroethane	107-06-2	203-458-1	0.01	ND
62	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	0.01	ND
63	Arsenic acid*	7778-39-4	231-901-9	—	ND
64	Trilead diarsenate*	3687-31-8	222-979-5	—	ND
65	Calcium arsenate*	7778-44-1	231-904-5	—	ND
66	N,N-dimethylacetamide	127-19-5	204-826-4	0.01	ND
67	Phenolphthalein	77-09-8	201-004-7	0.05	ND
68	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	202-918-9	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
69	Lead azide Lead diazide*	13424-46-9	236-542-1	—	ND
70	Lead styphnate*	15245-44-0	239-290-0	—	ND
71	Lead dipicrate*	6477-64-1	229-335-2	—	ND
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	2003-977-3	0.01	ND
73	1,2-dimethoxyethane;ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	0.01	ND
74	Diboron trioxide*	1303-86-2	215-125-8	—	ND
75	Formamide	75-12-7	200-842-0	0.01	ND
76	Lead(Ⅱ)bis(methanesulfonate)*	17570-76-2	401-750-5	—	ND
77	TGIC(1,3,5-tris[oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	219-514-3	0.01	ND
78	β-TGIC(1,3,5-tris[(2Sand2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	59653-74-6	423-400-0	0.01	ND
79	4,4'-bis(dimethylamino)benzophenone(Michler's ketone)	90-94-8	202-027-5	0.01	ND
80	N,n,n',n'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	0.01	ND
81	[4-[4,4'-bis(dimethylamino)benzhydryldene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride(C.I.Basic Violet 3)[with≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	548-62-9	208-953-6	0.01	ND
82	[4-[[4-anilino-1-naphthyl][1-(dimethylamino) Phenyl]methylene]cyclohexa-2,5-dien-1ylidene] dimethylammonium chloride(C.I.Basic Blue 26)[with≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	2580-56-5	219-943-6	0.01	ND
83	α，α -Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol(C.I.SolventBlue4)[with ≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	6786-83-0	229-851-8	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
84	4,4'-bis(dimethylamino0-4"-(methylamino)trityl alcohol[with≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	561-41-1	209-218-2	0.01	ND
85	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	214-604-9	0.001	ND
86	Pentacosafluorotridecanoic acid	72629-94-8	276-745-2	0.01	ND
87	Tricosafluorododecanoic acid	307-55-1	206-203-2	0.01	ND
88	Henicosafluoroundecanoic acid	2058-94-8	218-165-4	0.01	ND
89	Heptacosafluorotetradecanoic acid	376-06-7	206-803-4	0.01	ND
90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated -covering well-defined substances and UVCB substances, polymers and homologues	—	—	0.01	ND
91	4-Nonylphenol, branched and linear -substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof	—	—	0.01	ND
92	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	0.01	ND
93	Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA)	85-42-7	201-604-9	0.01	ND
94	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic anhydride	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	0.01	ND
95	Methoxy acetic acid	625-45-6	210-894-6	0.01	ND
96	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2	0.01	ND
97	Diisopentylphthalate (DIPP)	605-50-5	210-088-4	0.01	ND
98	N-pentyl-isopentylphtalate	—	—	0.01	ND
99	1,2-Diethoxyethane	629-14-1	211-076-1	0.01	ND
100	N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5	0.01	ND
101	Dibutyltin dichloride (DBT)	683-18-1	211-670-0	0.01	ND
102	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	—	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
103	Basic lead carbonate (trilead bis(carbonate)dihydroxide)*	1319-46-6	215-290-6	—	ND
104	Lead oxide sulfate (basic lead sulfate)*	12036-76-9	234-853-7	—	ND
105	[Phthalato(2-)]dioxotrilead (dibasic lead phthalate)*	69011-06-9	273-688-5	—	ND
106	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	—	ND
107	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	—	ND
108	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	—	ND
109	Lead cynamidate*	20837-86-9	244-073-9	—	ND
110	Lead dinitrate*	10099-74-8	233-245-9	—	ND
111	Lead oxide (lead monoxide)*	1317-36-8	215-267-0	—	ND
112	Lead tetroxide (orange lead)*	1314-41-6	215-235-6	—	ND
113	Lead titanium trioxide*	12060-00-3	235-038-9	—	ND
114	Lead Titanium Zirconium Oxide*	12626-81-2	235-727-4	—	ND
115	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	—	ND
116	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	—	ND
117	Silicic acid, barium salt, lead-doped*	68784-75-8	272-271-5	—	ND
118	Silicic acid, lead salt*	11120-22-2	234-363-3	—	ND
119	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	—	ND
120	Tetraethyllead*	78-00-2	201-075-4	—	ND
121	Tetralead trioxide sulphate*	12202-17-4	235-380-9	—	ND
122	Trilead dioxide phosphonate*	12141-20-7	235-252-2	—	ND
123	Furan	110-00-9	203-727-3	0.01	ND
124	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	200-879-2	0.01	ND
125	Diethyl sulphate	64-67-5	200-589-6	0.01	ND
126	Dimethyl sulphate	77-78-1	201-058-1	0.01	ND
127	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	0.01	ND
128	Dinoseb	88-85-7	201-861-7	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
129	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	0.01	ND
130	4,4'-oxydianiline and its salts	101-80-4	202-977-0	0.001	ND
131	4-Aminoazobenzene; 4-Phenylazoaniline	1960-9-3	200-453-6	0.001	ND
132	4-methyl-m-phenylenediamine (toluene-2,4--diamine)	95-80-7	202-453-1	0.001	ND
133	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	0.001	ND
134	Biphenyl-4-ylamine	92-67-1	202-177-1	0.01	ND
135	o-aminoazotoluene	97-56-3	202-591-2	0.001	ND
136	o-Toluidine; 2-Aminotoluene	95-53-4	202-429-0	0.001	ND
137	N-methylacetamide	79-16-3	201-182-6	0.01	ND
138	1-bromopropane; n-propyl bromide	106-94-5	203-445-0	0.01	ND
139	Cadmium*	7440-43-9	231-152-8	—	ND
140	Cadmium oxide*	1306-19-0	215-146-2	—	ND
141	Ammonium pentadecafluorooctanoate(APFO)	3825-26-1	223-320-4	0.01	ND
142	Pentadecafluorooctanoic acid(PFOA)	335-67-1	206-397-9	0.01	ND
143	Dipentyl phthalate(DPP)	131-18-0	205-017-9	0.01	ND
144	4-Nonylphenol, branched and linear,ethoxylated	—	—	0.01	ND
145	Cadmium sulphide*	1306-23-6	215-147-8	—	ND
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-amin on aphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	0.03	ND
147	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-bip henyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphth alene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	0.03	ND
148	Dihexyl phthalate	84-75-3	201-559-5	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	202-506-9	0.03	ND
150	Lead di(acetate)*	301-04-2	206-104-4	—	ND
151	Trixyly phosphate	25155-23-1	246-677-8	0.01	ND
152	1,2-Benzenedicarboxylic avid,dihexyl ester,branched and linear	68515-50-4	271-093-5	0.01	ND
153	Sodium perborate;perboric acid,sodium salt*	—	239-172-9 234-390-0	—	ND
154	Sodium peroxometaborate*	7632-04-4	231-556-4	—	ND
155	Cadmium chloride*	10108-64-2	233-296-7	—	ND
156	Cadmium fluoride*	7790-79-6	232-222-0	—	ND
157	Cadmium sulphate*	10124-36-4 31119-53-6	233-331-6	—	ND
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol	3846-71-7	223-346-6	0.01	ND
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	25973-55-1	247-384-8	0.01	ND
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stanna tetradecanoate	15571-58-1	239-622-4	0.01	ND
161	reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stanna tetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoat e	—	—	0.01	ND
162	1,2-benzenedicarboxylic acid,di-C6-10-alkyl esters;1,2-benzenedicarboxylic acid,mixed decyl and hexyl and octyl diesters with≥0.3% of dihexyl phthalate （EC NO.201-559-5）	68515-51-5 68648-93-1	271-094-0 272-013-1	0.05	ND
163	5-sec-butyl-2-（2,4-dimethylcyclohex-3-en-1-yl）-5-methyl-1,3-dioxane[1]，5-sec-butyl-2-（4,6-dimethylcyclohex-3-en-1-yl）-5-methyl-1,3-dioxane[2][covering any of the individual steroisomers of[1] and [2]or any comblnation thereof]	—	—	0.05	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
164	1,3-Propanesultone	1120-71-4	214-317-9	0.01	ND
165	2,4-Di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	0.01	ND
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol(UV-350)	36437-37-3	253-037-1	0.01	ND
167	Nitrobenzene	98-95-3	202-716-0	0.01	ND
168	Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononanoic acid) and its sodium and ammonium salts	375-95-1/ 21049-39-8 / 4149-60-4	206-801-3	0.01	ND
169	Benzo（e）pyrene	50-32-8	200-028-5	0.005	ND
170	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	201-245-8	0.01	ND
171	nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2	206-400-3	0.01	ND
172	4-heptylphenol, branched and linear (4-HPbl)	/	/	0.01	ND
173	4-tert-pentylphenol (PTAP)	80-46-6	201-280-9	0.01	ND
174	Perfluorohexane-1-Sulphonic acid and its salts(PFHxS)	355-46-4	206-587-1	0.05	ND

********To be continued********

Remark 1 (1)Inaccordance with Regulation (EC)No.1907/2006,any producer or importer of articles shall notify ECHA,in accordance with paragraph 4 of Article 7,if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1),if both the following conditions are met,

(a)The substance is present in those articles in quantities totalling over 1 tonne per producer or importer per year;

(b)the substance is present in those articles above a concentration of 0.1% weight by weight(w/w).

(2)From 28 October 2008,EU&EEA suppliers of articles which contain subatances on the Candidate List in a concenteation cbove 0.1%(w/w)must provide sufficient information,available to them,totheir customers and on request to a consumer within 45 days of the receipt of this request.This information must ensure safe use of the article and,as a minimum,include the name of the substance.

Remark 2 (1)Calculated concentration of cobalt dichloride, cobalt(II) sulphate, cobalt(II) dinitrate,cobalt(II) carbonate and cobalt(II) diacetate is based on the identified heavy metal and anion result. Calculated concentration of diarsenic pentaoxide, diarsenic trioxide,chromium trioxide,sodium dichromate, dehydrate, lead hydrogen arsenate, triethyl arsenate, lead chromate, sodium chromate, strontium chromate ,potassium chromate, ammonium dichromate,potassium dichromate, lead chromate molybdate sulfate red, lead sulfochromate yellow and acids generated from chromium trioxide and their oligomers, Lead dipicrate, Lead styphnate, Lead azide Lead diazide, Trilead diarsenate , Calcium arsenate , Arsenic acid ,Potassium hydroxyoctaoxodizincatedi-chromate, Dichromium tris(chromate), Pentazinc chromate octahydroxide, Lead(II) bis(methanesulfonate), Diboron trioxide ,Acetic acid, lead salt, basic, Basic lead carbonate (trilead bis(carbonate)dihydroxide), Lead oxide sulfate (basic lead sulfate), [Phthalato(2-)]dioxotrilead (dibasic lead phthalate), Dioxobis(stearato)trilead, Fatty acids, C16-18, lead salts, Lead bis(tetrafluoroborate), Lead cynamidate, Lead dinitrate, Lead oxide (lead monoxide), Lead tetroxide (orange lead), Lead titanium trioxide, Lead Titanium Zirconium Oxide , Pentalead tetraoxide sulphate ,Pyrochlore, antimony lead yellow ,Silicic acid, barium salt, lead-doped , Sulfurous acid, leadsalt, dibasic, Tetraethyllead, Tetralead trioxide sulphate, Trilead dioxide phosphonate,Cadmium,Cadmium oxide,Cadmium sulphide and Lead di(acetate), Cadmium chloride,Cadmium fluoride,Cadmium sulphate are based on the identified heavy metal result,boric acid, disodium tetraborate,anhydrous and tetraboron disodium heptaoxide, hydrate , Sodium perborate, perboric acid,sodium salt , Sodium peroxometaborate are based on the identified result of boron and sodium result. The identities of above metal substances present in the article have to be further confirmed;The RL(Reporting Limit) for these test items are 0.05%.

(2)** Concentration of bis(tributyltin)oxide, TBTO is reported as tributyltin, TBT. The result is a screening test of TBTO and can cover TBTO and other salts under current technologies.Further investigation is needed to have the exact amount of TBTO;

Remark 2 (3)*** Calculated concentration of Aluminosilicate, Refractory Ceramic Fibres ;Zirconia Aluminosilicate, Refractory Ceremic Fibres is based on the identified heavy metal result and confirmation by microscope;

(4) ****The substance does only fulfil the criteria of REACH Art. 57 (a) if it contains Michler's ketone (EC Number: 202-027-5) or Michler's base (EC Number: 202-959-2) in a concentration ≥ 0.1% (weight / weight);

(5) ND= Not detected, less than MDL;

(6) MDL=Method Detection Limit;

(7) *****1# sample test line

2. Determination of RoHS 6 （unit：mg/kg）

Testing method

（1）With reference to IEC 62321-5:2013. By ICP - OES for measuring;

（2）With reference to IEC 62321-4:2013. By ICP-OES for measuring;

（3）With reference to IEC 62321-7-2-2017. By UV-VIS for measuring;

（4）With reference to IEC 62321-6:2015. By GC-MS for measuring.

Testing Item(s)	Method	MDL	Limit	1#******
Lead （Pb）	(1)	2	1000	ND
Cadmium （Cd）		2	100	ND
Mercury （Hg）	(2)	2	1000	ND
Chromium(VI)（Cr^{6+}）	(3)	2	1000	ND
Polybrominated Biphenyls（PBBs）	(4)	—	1000	ND
Polybrominated Diphenyl Ethers（PBDEs）		—	1000	ND

Note: （1）1 mg/kg=1 ppm=0.0001%

（2）MDL=Method Detection Limit

（3）ND=Not Detected (<MDL)

（4）"—" =Not Regulated

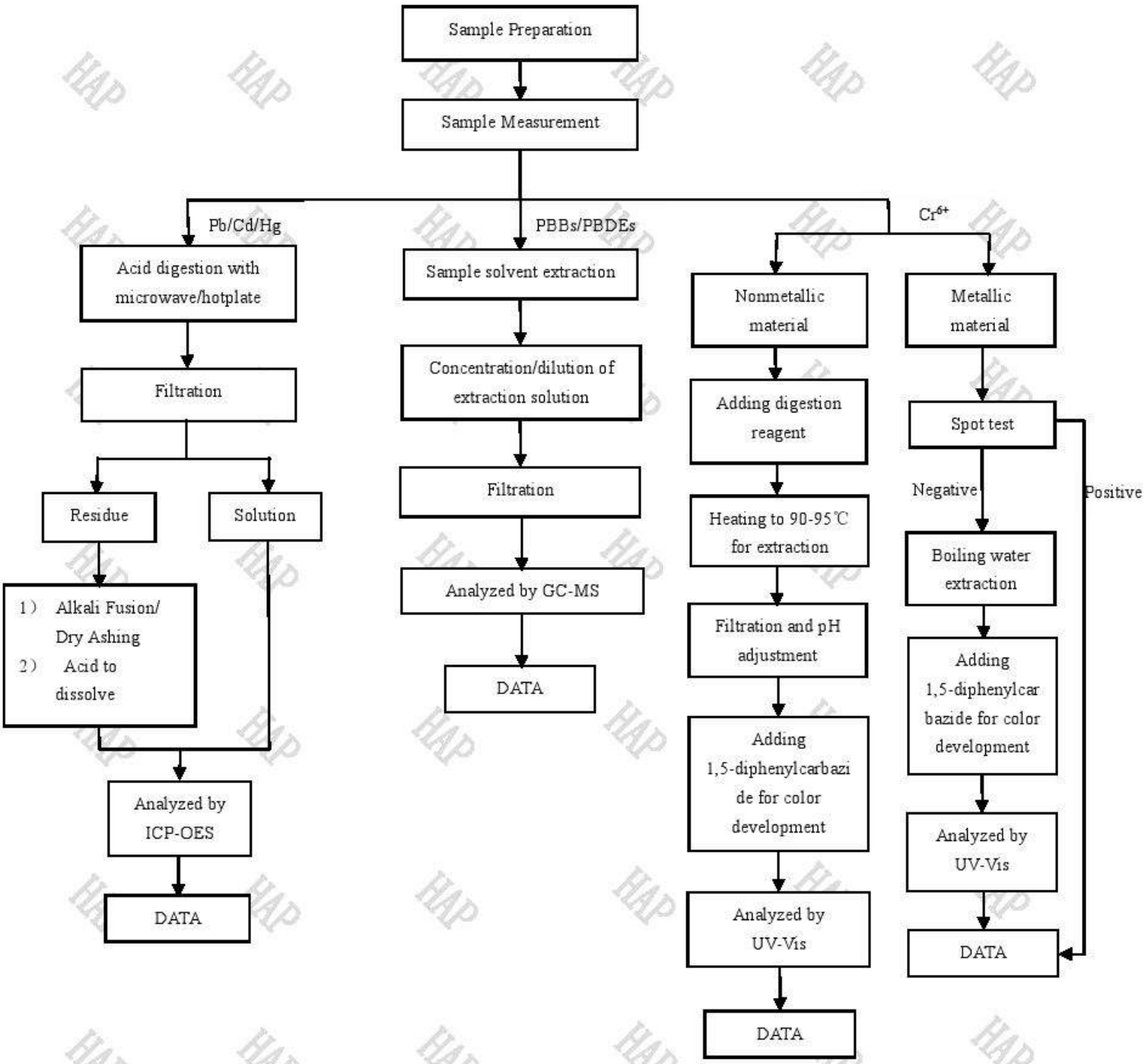
（5）Polybrominated diphenyl ethers

（6）Polybrominated Biphenyls、Polybrominated Diphenyl Ethers list,and detection limit (MDL)

Polybrominated Biphenyls（PBBs）	MDL	Polybrominated Diphenyl Ethers（PBDEs）	MDL
Bromobiphenyl	5	Bromobiphenyl ether	5
Dibromobiphenyl	5	Dibromobiphenyl ether	5
Tribromobiphenyl	5	Tribromobiphenyl ether	5
Tetrabromobiphenyl	5	Tetrabromodiphenyl ether	5
Pentabromobiphenyl	5	Pentabromodiphenyl ether	5
Hexabromobiphenyl	5	Hexabromodiphenyl ether	5
Heptabromobiphenyl	5	Heptabromodiphenyl ether	5
Octabromobiphenyl	5	Octabromobiphenyl ether	5
Nonabromobiphenyl	5	Nonabromobiphenyl ether	5
Decabromodiphenyl	5	Decabromobiphenyl ether	5

（7）******1# sample test line

RoHS Testing Flow Chart



3. Determination of Polynuclear Aromatic Hydrocarbons（PAHs）（unit：mg/kg）

Testing method With reference to AfPS GS 2014:01 PAK . By GC-MS for measuring.

Testing Item(s)	MDL	1#*******
Naphthalene	0.2	ND
Acenaphthene	0.2	ND
Fluorene	0.2	ND
Phenanthrene	0.2	ND
Anthracene	0.2	ND
Pyrene	0.2	ND
Chrysene	0.2	ND
Acenaphthylene	0.2	ND
Fluoranthene	0.2	ND
Benzoyl（a）anthracene	0.2	ND
Benzo（a）pyrene	0.2	ND
Benzo（e）pyrene	0.2	ND
Benzo（b）fluoranthene	0.2	ND
Benzo（j）fluoranthene	0.2	ND
Benzo（k）fluoranthene	0.2	ND
Benzo（a，h，i）perlene	0.2	ND
Dibenzo（a，h）anthracene	0.2	ND
Indeno（1,2,3-c，d）pyrene	0.2	ND
Sum of Acenaphthylene Acenaphthene Anthracene Fluoranthene Fluorene Phenanthrene Pyrene	—	ND
The sum of 18 PAHs	—	ND

Note: （1）1mg/kg=1ppm=0.0001%

（2）MDL=Method Detection Limit

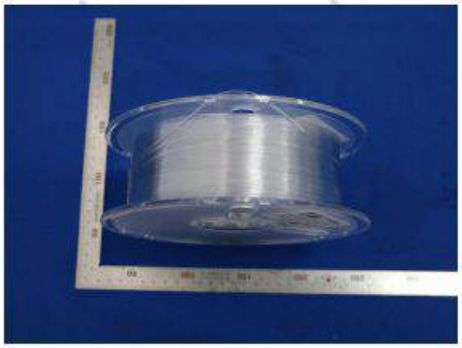
（3）ND=Not Detected（＜MDL）

（4）“—”=Not Regulated

（5）********1# sample test line

Test Report

Sample photo:



HAP17106585503 1#

***End of report ***

This report is considered invalidated without the Special Seal for Inspection of the HAP. This report shall not be altered, increased or deleted. The results shown in this test report refer only to the sample(s) tested. If you have any objections to the test results, please submit them in writing within 15 days after the date of issue of the report. Without written approval of HAP, this test report shall not be copied except in full and published as advertisement. Report covers just for decoration, not included in the body of the report. (See the specific in general terms http://www.hap-test.com/customerservice.html)

环谱检测
HAP Testing

检 测 报 告

江苏环谱检测技术服务有限公司
JiangSu HAP Testing Service Co.,Ltd.

Test Report

Report No.: HAP17106585504

Applicant	JF Polymers(Suzhou) Co.,Ltd.
Address	Haicheng Industrial Park,Bldg 7,Changshu Econimic and Technological Zone,Changshu,Jiangsu Province ,China

Report on the submitted sample(s) said to be

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

Sample Name	1# PolyDissolve™ S1
Sample Wire Diameter	1.75mm / 2.85mm
Sample Colour	Original color
Sample Received Date	Oct.10,2017
Testing Period	Oct.10,2017 to Oct.16,2017

Testing Requested

As per client's request,

（1）According to European Commission Regulation 1907/2006(REACH Act),to test the SVHC content which have been listed in ECHA's SVHC candidate list till 2017/07/07;http://echa.europa.eu/web/guest/candidate-list-table

（2）to determine the RoHS 6 (Pb,Cd,Hg,Cr^{6+}, PBBs, PBDEs) in the submitted sample according to RoHS Directive 2011/65/EU Annex II;

（3）to determine the Polynuclear Aromatic Hydrocarbons（PAHs）content in the submitted sample according to AfPS GS 2014:01 PAK .

Testing Results

Please refer to next page(s)

Conclusion

According to the analytical results,

（1）concentrations of 174 SVHC substances are all less than 0.1% in the sub mitted sample.Please refer to next page(s);

（2）Based on the test samples,the test results of Cadmium(Cd),Lead(Pb),Mercury(Hg),Hexavalent Chromium (Cr^{6+}),The sum of Polybrominated Biphenyls(PBBs) and The sum of Polybrominated Diphenyl Ethers(PBDEs) comply with the limits as set by RoHS Directive 2011/65/EUAnnex II;recasting 2002/95/EC.

Signer : _____ Date : Oct.16.2017

JIANGSU HAP TESTING SERVICE CO.,LTD 检验检测专用章

Test Report

1. Determination of REACH-SVHC （unit：%）

Testing method In-house method with reference to AfPS GS 2014:01 PAK,EPA 3550C:2007,EPA 3052:1996,EPA 6010C:2007,EPA 5021:1996,EPA 8270D:2007,IEC 62321:2008,EN 14362-1:2012,DIN EN ISO 17353:2005, By GC-MS, HPLC,UV-VIS, ICP-OES for measuring.

No.	Testing Item(s)	CASNo.	EC No.	MDL	1#*****
1	Anthracene	120-12-7	204-371-1	0.005	ND
2	4,4'-diaminodiphenylmethane（MDA）	101-77-9	202-974-4	0.005	ND
3	Dibutyl Phthalate (DBP)	84-74-2	201-557-4	0.005	ND
4	Cobalt dichloride*	7646-79-9	231-589-4	—	ND
5	Diarsenic pentaoxide*	1303-28-2	215-116-9	—	ND
6	Diarsenic trioxide*	1327-53-3	215-481-4	—	ND
7	Sodium dichromate*	7789-12-0/10588-01-09	234-190-3	—	ND
8	5-tert-butyl-2,4,6-trinitro-m-xylene(Musk xylene)	81-15-2	201-329-4	0.005	ND
9	Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	204-211-0	0.005	ND
10	Hexabromocyclododecane（HBCDD）and all major diastereoisomers identified:Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4/3194-55-6	247-148-4/221-695-9	0.005	ND
11	Short Chain Chlorinated Paraffins（SCCPs）	85535-84-8	287-476-5	0.01	ND
12	Bis（tributyltin）oxide（TBTO）**	56-35-9	200-268-0	0.05	ND
13	Lead hydrogen arsenate*	7784-40-9	232-064-2	—	ND
14	Benzylbutyl Phthalate (BBP)	85-68-7	201-622-7	0.005	ND
15	Triethyl arsenate*	15606-95-8	427-700-2	—	ND
16	Anthracene oil	90640-80-5	292-602-7	0.05	ND
17	Anthracene oil,anthracene paste,distn.Lights	91995-17-4	295-278-5	0.05	ND
18	Anthracene oil,anthracene paste,anthracene fraction	91995-15-2	295-275-9	0.05	ND
19	Anthracene oil,anthracene-low	90640-82-7	292-604-8	0.05	ND
20	Anthracene oil,anthracene paste	90640-81-6	292-603-2	0.05	ND
21	Coal tar pitch,high temperature	659969-93-2	266-028-2	0.05	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
22	2,4-Dinitrotoluene	121-14-2	204-450-0	0.01	ND
23	Diisobutyl phthalate（DIBP）	84-69-5	201-553-2	0.005	ND
24	Lead chromate*	7758-97-6	231-846-0	—	ND
25	Lead chromate molybdate sulphate red（C.I.Pigment Red 104）*	12656-85-8	235-759-9	—	ND
26	Lead sulfochromate yellow（C.I.Pigment Yellow 34）*	1344-37-2	215-693-7	—	ND
27	Tris（2-chloroethyl）phosphate（TCEP）	115-96-8	204-118-5	0.01	ND
28	Acrylamide	79-06-1	201-173-7	0.01	ND
29	Trichloroethylene	79-01-6	201-167-4	0.005	ND
30	Boric acid*	10043-35-3 11113-50-1	233-139-2 234-343-4	—	ND
31	Disodium tetraborate,anhydrous*	1330-43-4 12179-04-3 1303-96-4	215-540-4	—	ND
32	Tetraboron disodium heptaoxide,hydrate*	12267-73-1	235-541-3	—	ND
33	Sodium chromate*	7775-11-3	231-889-5	—	ND
34	Potassium chromate*	7789-00-6	232-140-5	—	ND
35	Ammonium dichromate*	7789-09-5	232-143-1	—	ND
36	Potassium dichromate*	7778-50-9	231-906-6	—	ND
37	Cobalt(II) sulphate *	10124-43-3	233-334-2	—	ND
38	Cobalt(II) dinitrate *	10141-05-6	233-402-1	—	ND
39	Cobalt(II) carbonate*	513-79-1	208-169-4	—	ND
40	Cobalt(II) diacetate *	71-48-7	200-755-8	—	ND
41	2-Methoxyethanol	109-86-4	203-713-7	0.01	ND
42	2-Ethoxyethanol	110-80-5	203-804-1	0.01	ND
43	Chromium trioxide*	1333-82-0	215-607-8	—	ND
44	Chromic acid、Dichromic acid、acids generated from chromium trioxide and their oligomers*	7738-94-5; 13530-68-2	231-801-5,236-881-5	—	ND
45	2-ethoxyethyl acetate	111-15-9	203-839-2	0.05	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
46	strontium chromate （1,2-Benzenedic ）*	7789-6-2	232-142-6	—	ND
47	1,2-Benzenedicarboxylic acid,di-(C7-11)-branched and linear alkyl esters	68515-42-4	271-084-6	0.01	ND
48	Hydrazine	7803-57-8、302-01-2	206-114-9	0.05	ND
49	1-Methyl-2-pyr rolidinone	872-50-4	212-828-1	0.01	ND
50	1,2,3-trichlor opropane （1,2-Benzenedic）	96-18-4	202-486-1	0.01	ND
51	1,2-Benzenedicarboxylic acid,di-(C6-8)-branched alkyl esters,C7-rich	71888-89-6	276-158-1	0.01	ND
52	Dichromium tris(chromate)*	24613-89-6	246-356-2	—	ND
53	Potassium hydroxyoctaoxodizincatedi-chromate*	11103-86-9	234-329-8	—	ND
54	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	—	ND
55	Aluminosilicate Refractory Ceramic Fibres (RCF)***	—	650-017-00-8	0.05	ND
56	Zirconia Aluminosilicate Refractory Ceramic Fibres***	—	650-017-00-8	0.05	ND
57	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-01	0.05	ND
58	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	0.005	ND
59	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	0.01	ND
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	205-426-2	0.01	ND
61	1,2-Dichloroethane	107-06-2	203-458-1	0.01	ND
62	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	0.01	ND
63	Arsenic acid*	7778-39-4	231-901-9	—	ND
64	Trilead diarsenate*	3687-31-8	222-979-5	—	ND
65	Calcium arsenate*	7778-44-1	231-904-5	—	ND
66	N,N-dimethylacetamide	127-19-5	204-826-4	0.01	ND
67	Phenolphthalein	77-09-8	201-004-7	0.05	ND
68	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	202-918-9	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
69	Lead azide Lead diazide*	13424-46-9	236-542-1	—	ND
70	Lead styphnate*	15245-44-0	239-290-0	—	ND
71	Lead dipicrate*	6477-64-1	229-335-2	—	ND
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	2003-977-3	0.01	ND
73	1,2-dimethoxyethane;ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	0.01	ND
74	Diboron trioxide*	1303-86-2	215-125-8	—	ND
75	Formamide	75-12-7	200-842-0	0.01	ND
76	Lead(Ⅱ)bis(methanesulfonate)*	17570-76-2	401-750-5	—	ND
77	TGIC(1,3,5-tris[oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	219-514-3	0.01	ND
78	β-TGIC(1,3,5-tris[(2Sand2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	59653-74-6	423-400-0	0.01	ND
79	4,4'-bis(dimethylamino)benzophenone(Michler's ketone)	90-94-8	202-027-5	0.01	ND
80	N,n,n',n'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	0.01	ND
81	[4-[4,4'-bis(dimethylamino)benzhydryldene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride(C.I.Basic Violet 3)[with≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	548-62-9	208-953-6	0.01	ND
82	[4-[[4-anilino-1-naphthyl][1-(dimethylamino) Phenyl]methylene]cyclohexa-2,5-dien-1ylidene] dimethylammonium chloride(C.I.Basic Blue 26)[with≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	2580-56-5	219-943-6	0.01	ND
83	α，α -Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol(C.I.SolventBlue4)[with ≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	6786-83-0	229-851-8	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
84	4,4'-bis(dimethylamino0-4"-(methylamino)trityl alcohol[with≥0.1% of Michler's ketone(EC No.202-027-5)or Michler's base(EC No.202-959-2)]****	561-41-1	209-218-2	0.01	ND
85	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	214-604-9	0.001	ND
86	Pentacosafluorotridecanoic acid	72629-94-8	276-745-2	0.01	ND
87	Tricosafluorododecanoic acid	307-55-1	206-203-2	0.01	ND
88	Henicosafluoroundecanoic acid	2058-94-8	218-165-4	0.01	ND
89	Heptacosafluorotetradecanoic acid	376-06-7	206-803-4	0.01	ND
90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated -covering well-defined substances and UVCB substances, polymers and homologues	—	—	0.01	ND
91	4-Nonylphenol, branched and linear -substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof	—	—	0.01	ND
92	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	0.01	ND
93	Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA)	85-42-7	201-604-9	0.01	ND
94	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic anhydride	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	0.01	ND
95	Methoxy acetic acid	625-45-6	210-894-6	0.01	ND
96	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2	0.01	ND
97	Diisopentylphthalate (DIPP)	605-50-5	210-088-4	0.01	ND
98	N-pentyl-isopentylphtalate	—	—	0.01	ND
99	1,2-Diethoxyethane	629-14-1	211-076-1	0.01	ND
100	N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5	0.01	ND
101	Dibutyltin dichloride (DBT)	683-18-1	211-670-0	0.01	ND
102	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	—	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
103	Basic lead carbonate (trilead bis(carbonate)dihydroxide)*	1319-46-6	215-290-6	—	ND
104	Lead oxide sulfate (basic lead sulfate)*	12036-76-9	234-853-7	—	ND
105	[Phthalato(2-)]dioxotrilead (dibasic lead phthalate)*	69011-06-9	273-688-5	—	ND
106	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	—	ND
107	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	—	ND
108	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	—	ND
109	Lead cynamidate*	20837-86-9	244-073-9	—	ND
110	Lead dinitrate*	10099-74-8	233-245-9	—	ND
111	Lead oxide (lead monoxide)*	1317-36-8	215-267-0	—	ND
112	Lead tetroxide (orange lead)*	1314-41-6	215-235-6	—	ND
113	Lead titanium trioxide*	12060-00-3	235-038-9	—	ND
114	Lead Titanium Zirconium Oxide*	12626-81-2	235-727-4	—	ND
115	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	—	ND
116	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	—	ND
117	Silicic acid, barium salt, lead-doped*	68784-75-8	272-271-5	—	ND
118	Silicic acid, lead salt*	11120-22-2	234-363-3	—	ND
119	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	—	ND
120	Tetraethyllead*	78-00-2	201-075-4	—	ND
121	Tetralead trioxide sulphate*	12202-17-4	235-380-9	—	ND
122	Trilead dioxide phosphonate*	12141-20-7	235-252-2	—	ND
123	Furan	110-00-9	203-727-3	0.01	ND
124	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	200-879-2	0.01	ND
125	Diethyl sulphate	64-67-5	200-589-6	0.01	ND
126	Dimethyl sulphate	77-78-1	201-058-1	0.01	ND
127	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	0.01	ND
128	Dinoseb	88-85-7	201-861-7	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
129	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	0.01	ND
130	4,4'-oxydianiline and its salts	101-80-4	202-977-0	0.001	ND
131	4-Aminoazobenzene; 4-Phenylazoaniline	1960-9-3	200-453-6	0.001	ND
132	4-methyl-m-phenylenediamine (toluene-2,4--diamine)	95-80-7	202-453-1	0.001	ND
133	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	0.001	ND
134	Biphenyl-4-ylamine	92-67-1	202-177-1	0.01	ND
135	o-aminoazotoluene	97-56-3	202-591-2	0.001	ND
136	o-Toluidine; 2-Aminotoluene	95-53-4	202-429-0	0.001	ND
137	N-methylacetamide	79-16-3	201-182-6	0.01	ND
138	1-bromopropane; n-propyl bromide	106-94-5	203-445-0	0.01	ND
139	Cadmium*	7440-43-9	231-152-8	—	ND
140	Cadmium oxide*	1306-19-0	215-146-2	—	ND
141	Ammonium pentadecafluorooctanoate(APFO)	3825-26-1	223-320-4	0.01	ND
142	Pentadecafluorooctanoic acid(PFOA)	335-67-1	206-397-9	0.01	ND
143	Dipentyl phthalate(DPP)	131-18-0	205-017-9	0.01	ND
144	4-Nonylphenol, branched and linear,ethoxylated	—	—	0.01	ND
145	Cadmium sulphide*	1306-23-6	215-147-8	—	ND
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-amin on aphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	0.03	ND
147	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-bip henyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphth alene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	0.03	ND
148	Dihexyl phthalate	84-75-3	201-559-5	0.01	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	202-506-9	0.03	ND
150	Lead di(acetate)*	301-04-2	206-104-4	—	ND
151	Trixyly phosphate	25155-23-1	246-677-8	0.01	ND
152	1,2-Benzenedicarboxylic avid,dihexyl ester,branched and linear	68515-50-4	271-093-5	0.01	ND
153	Sodium perborate;perboric acid,sodium salt*	—	239-172-9 234-390-0	—	ND
154	Sodium peroxometaborate*	7632-04-4	231-556-4	—	ND
155	Cadmium chloride*	10108-64-2	233-296-7	—	ND
156	Cadmium fluoride*	7790-79-6	232-222-0	—	ND
157	Cadmium sulphate*	10124-36-4 31119-53-6	233-331-6	—	ND
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol	3846-71-7	223-346-6	0.01	ND
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	25973-55-1	247-384-8	0.01	ND
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stanna tetradecanoate	15571-58-1	239-622-4	0.01	ND
161	reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stanna tetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoat e	—	—	0.01	ND
162	1,2-benzenedicarboxylic acid,di-C6-10-alkyl esters;1,2-benzenedicarboxylic acid,mixed decyl and hexyl and octyl diesters with≥0.3% of dihexyl phthalate （EC NO.201-559-5）	68515-51-5 68648-93-1	271-094-0 272-013-1	0.05	ND
163	5-sec-butyl-2-（2,4-dimethylcyclohex-3-en-1-yl）-5-methyl-1,3-dioxane[1]，5-sec-butyl-2-（4,6-dimethylcyclohex-3-en-1-yl）-5-methyl-1,3-dioxane[2][covering any of the individual steroisomers of[1] and [2]or any comblnation thereof]	—	—	0.05	ND

No.	Testing Item(s)	CAS No.	EC No.	MDL	1#
164	1,3-Propanesultone	1120-71-4	214-317-9	0.01	ND
165	2,4-Di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	0.01	ND
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol(UV-350)	36437-37-3	253-037-1	0.01	ND
167	Nitrobenzene	98-95-3	202-716-0	0.01	ND
168	Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononanoic acid) and its sodium and ammonium salts	375-95-1/ 21049-39-8 / 4149-60-4	206-801-3	0.01	ND
169	Benzo（e）pyrene	50-32-8	200-028-5	0.005	ND
170	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	201-245-8	0.01	ND
171	nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2	206-400-3	0.01	ND
172	4-heptylphenol, branched and linear (4-HPbl)	/	/	0.01	ND
173	4-tert-pentylphenol (PTAP)	80-46-6	201-280-9	0.01	ND
174	Perfluorohexane-1-Sulphonic acid and its salts(PFHxS)	355-46-4	206-587-1	0.05	ND

********To be continued********

Remark 1 (1)Inaccordance with Regulation (EC)No.1907/2006,any producer or importer of articles shall notify ECHA,in accordance with paragraph 4 of Article 7,if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1),if both the following conditions are met,

(a)The substance is present in those articles in quantities totalling over 1 tonne per producer or importer per year;

(b)the substance is present in those articles above a concentration of 0.1% weight by weight(w/w).

(2)From 28 October 2008,EU&EEA suppliers of articles which contain subatances on the Candidate List in a concenteation cbove 0.1%(w/w)must provide sufficient information,available to them,totheir customers and on request to a consumer within 45 days of the receipt of this request.This information must ensure safe use of the article and,as a minimum,include the name of the substance.

Remark 2 (1)Calculated concentration of cobalt dichloride, cobalt(II) sulphate, cobalt(II) dinitrate,cobalt(II) carbonate and cobalt(II) diacetate is based on the identified heavy metal and anion result. Calculated concentration of diarsenic pentaoxide, diarsenic trioxide,chromium trioxide,sodium dichromate, dehydrate, lead hydrogen arsenate, triethyl arsenate, lead chromate, sodium chromate, strontium chromate ,potassium chromate, ammonium dichromate,potassium dichromate, lead chromate molybdate sulfate red, lead sulfochromate yellow and acids generated from chromium trioxide and their oligomers, Lead dipicrate, Lead styphnate, Lead azide Lead diazide, Trilead diarsenate , Calcium arsenate , Arsenic acid ,Potassium hydroxyoctaoxodizincatedi-chromate, Dichromium tris(chromate), Pentazinc chromate octahydroxide, Lead(II) bis(methanesulfonate), Diboron trioxide ,Acetic acid, lead salt, basic, Basic lead carbonate (trilead bis(carbonate)dihydroxide), Lead oxide sulfate (basic lead sulfate), [Phthalato(2-)]dioxotrilead (dibasic lead phthalate), Dioxobis(stearato)trilead, Fatty acids, C16-18, lead salts, Lead bis(tetrafluoroborate), Lead cynamidate, Lead dinitrate, Lead oxide (lead monoxide), Lead tetroxide (orange lead), Lead titanium trioxide, Lead Titanium Zirconium Oxide , Pentalead tetraoxide sulphate ,Pyrochlore, antimony lead yellow ,Silicic acid, barium salt, lead-doped , Sulfurous acid, leadsalt, dibasic, Tetraethyllead, Tetralead trioxide sulphate, Trilead dioxide phosphonate,Cadmium,Cadmium oxide,Cadmium sulphide and Lead di(acetate), Cadmium chloride,Cadmium fluoride,Cadmium sulphate are based on the identified heavy metal result,boric acid, disodium tetraborate,anhydrous and tetraboron disodium heptaoxide, hydrate , Sodium perborate, perboric acid,sodium salt , Sodium peroxometaborate are based on the identified result of boron and sodium result. The identities of above metal substances present in the article have to be further confirmed;The RL(Reporting Limit) for these test items are 0.05%.

(2)** Concentration of bis(tributyltin)oxide, TBTO is reported as tributyltin, TBT. The result is a screening test of TBTO and can cover TBTO and other salts under current technologies.Further investigation is needed to have the exact amount of TBTO;

Remark 2 (3)*** Calculated concentration of Aluminosilicate, Refractory Ceramic Fibres ;Zirconia Aluminosilicate, Refractory Ceremic Fibres is based on the identified heavy metal result and confirmation by microscope;

(4) ****The substance does only fulfil the criteria of REACH Art. 57 (a) if it contains Michler's ketone (EC Number: 202-027-5) or Michler's base (EC Number: 202-959-2) in a concentration ≥ 0.1% (weight / weight);

(5) ND= Not detected, less than MDL;

(6) MDL=Method Detection Limit;

(7) *****1# sample test line

2. Determination of RoHS 6 （unit：mg/kg）

Testing method （1）With reference to IEC 62321-5:2013. By ICP - OES for measuring;

（2）With reference to IEC 62321-4:2013. By ICP-OES for measuring;

（3）With reference to IEC 62321-7-2-2017. By UV-VIS for measuring;

（4）With reference to IEC 62321-6:2015. By GC-MS for measuring.

Testing Item(s)	Method	MDL	Limit	1#******
Lead （Pb）	(1)	2	1000	ND
Cadmium （Cd）		2	100	ND
Mercury （Hg）	(2)	2	1000	ND
Chromium(VI)（Cr^{6+}）	(3)	2	1000	ND
Polybrominated Biphenyls（PBBs）	(4)	—	1000	ND
Polybrominated Diphenyl Ethers（PBDEs）		—	1000	ND

Note: （1）1 mg/kg=1 ppm=0.0001%

（2）MDL=Method Detection Limit

（3）ND=Not Detected (<MDL)

（4）"—" =Not Regulated

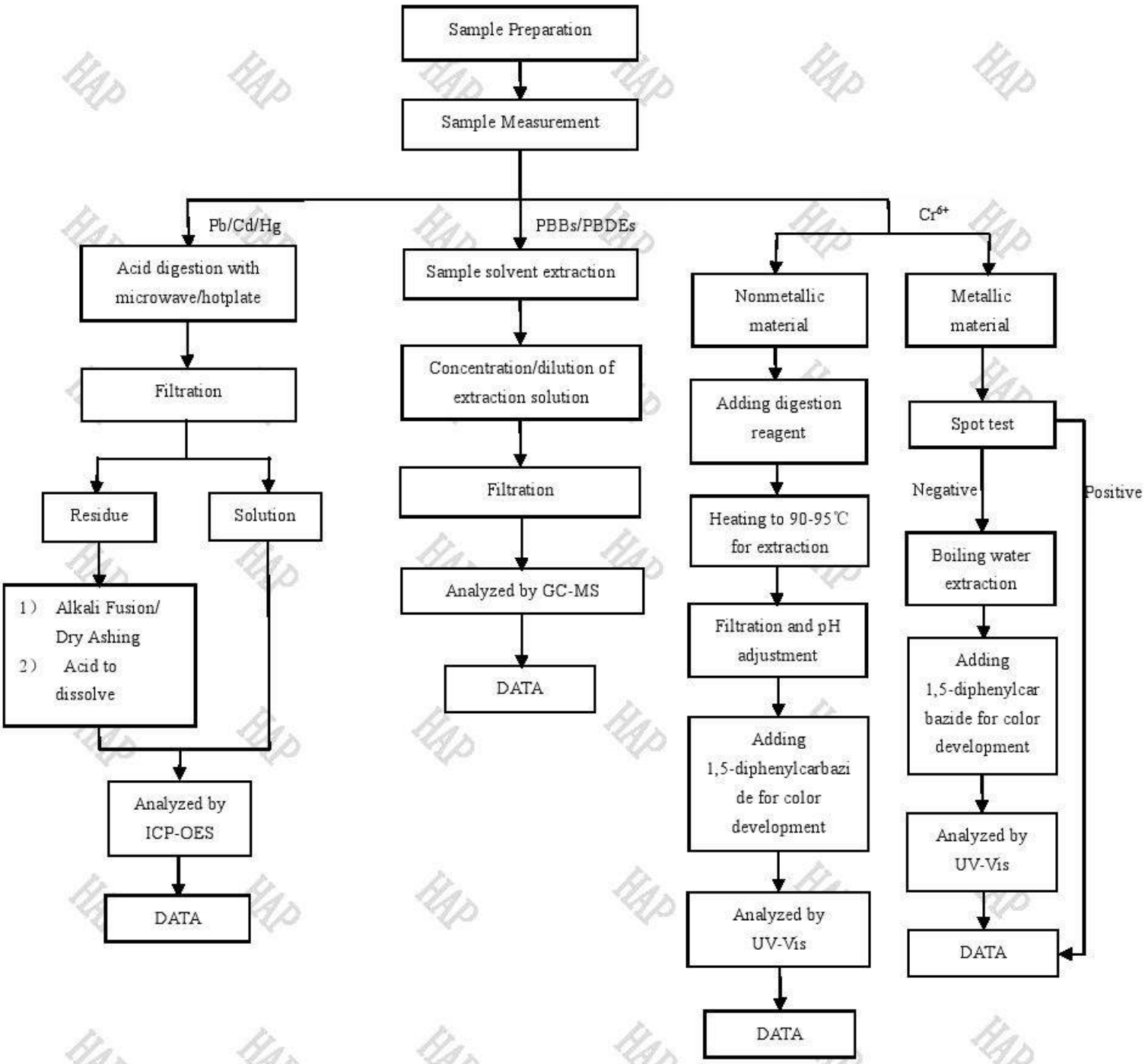
（5）Polybrominated diphenyl ethers

（6）Polybrominated Biphenyls、Polybrominated Diphenyl Ethers list,and detection limit (MDL)

Polybrominated Biphenyls（PBBs）	MDL	Polybrominated Diphenyl Ethers（PBDEs）	MDL
Bromobiphenyl	5	Bromobiphenyl ether	5
Dibromobiphenyl	5	Dibromobiphenyl ether	5
Tribromobiphenyl	5	Tribromobiphenyl ether	5
Tetrabromobiphenyl	5	Tetrabromodiphenyl ether	5
Pentabromobiphenyl	5	Pentabromodiphenyl ether	5
Hexabromobiphenyl	5	Hexabromodiphenyl ether	5
Heptabromobiphenyl	5	Heptabromodiphenyl ether	5
Octabromobiphenyl	5	Octabromobiphenyl ether	5
Nonabromobiphenyl	5	Nonabromobiphenyl ether	5
Decabromodiphenyl	5	Decabromobiphenyl ether	5

（7）******1# sample test line

RoHS Testing Flow Chart



3. Determination of Polynuclear Aromatic Hydrocarbons（PAHs）（unit：mg/kg）

Testing method With reference to AfPS GS 2014:01 PAK . By GC-MS for measuring.

Testing Item(s)	MDL	1#*******
Naphthalene	0.2	ND
Acenaphthene	0.2	ND
Fluorene	0.2	ND
Phenanthrene	0.2	ND
Anthracene	0.2	ND
Pyrene	0.2	ND
Chrysene	0.2	ND
Acenaphthylene	0.2	ND
Fluoranthene	0.2	ND
Benzoyl（a）anthracene	0.2	ND
Benzo（a）pyrene	0.2	ND
Benzo（e）pyrene	0.2	ND
Benzo（b）fluoranthene	0.2	ND
Benzo（j）fluoranthene	0.2	ND
Benzo（k）fluoranthene	0.2	ND
Benzo（a，h，i）perlene	0.2	ND
Dibenzo（a，h）anthracene	0.2	ND
Indeno（1,2,3-c，d）pyrene	0.2	ND
Sum of Acenaphthylene Acenaphthene Anthracene Fluoranthene Fluorene Phenanthrene Pyrene	—	ND
The sum of 18 PAHs	—	ND

Note: （1）1mg/kg=1ppm=0.0001%

（2）MDL=Method Detection Limit

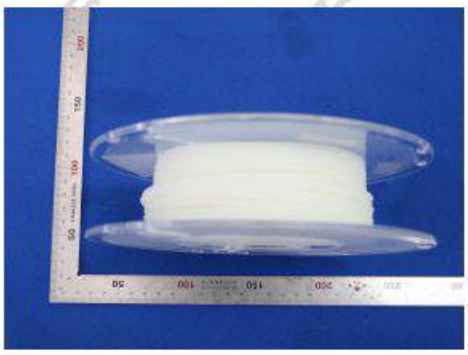
（3）ND=Not Detected（＜MDL）

（4）“—”=Not Regulated

（5）********1# sample test line

Test Report

Sample photo:



HAP17106585504 1#

***End of report ***

This report is considered invalidated without the Special Seal for Inspection of the HAP. This report shall not be altered, increased or deleted. The results shown in this test report refer only to the sample(s) tested. If you have any objections to the test results, please submit them in writing within 15 days after the date of issue of the report. Without written approval of HAP, this test report shall not be copied except in full and published as advertisement. Report covers just for decoration, not included in the body of the report. (See the specific in general terms http://www.hap-test.com/customerservice.html)

RS Components

RoHS Certificate of Compliance

EU Directives 2011/65/EU and 2015/863 restrict the use of the 10 substances below in the manufacture of specified types of electrical equipment.

Whilst this restriction does not legally apply to components, it is recognised that component “compliance” is relevant to many customers.

RS definition of RoHS Compliance:

- The product does not contain any of the restricted substances in concentrations and applications banned by the Directive,
- and for components, the product is capable of being worked on at the higher temperatures required by lead–free soldering.

The restricted substances and maximum allowed concentrations in the homogenous material are, by weight:

Substance	Concentration
Lead	0.1%
Mercury	0.1%
PBB (Polybrominated Biphenyls)	0.1%
PBDE (Polybrominated Diphenyl Ethers)	0.1%
Hexavalent Chromium	0.1%
Cadmium	0.01%
DEHP (Bis (2-Ethylhexl) phthalate)	0.1%
BBP (Benzyl butyl phthalate)	0.1%
DBP (Dibutyl phthalate)	0.1%
DIBP (Diisobutyl phthalate)	0.1%

The supplier of the item listed below has informed RS Components that the product is “RoHS Compliant”. RS Components has taken all reasonable steps to confirm this statement. Information relates only to products sold on or after the date of this certificate.

Compliant product details

RS stock number	**146-6706**
Description	**Verbatim 1.75mm Transparent PP 3D Printer Filament, 500g**
Manufacturer/Brand Name	**Verbatim**
Manufacturer Part No.	**55950**

The foregoing information relates to product sold on, or after, the date shown below.

Date **11.5.2021**

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