



Test Report

Report No.: BST1712850120005-1Y-1RR-4 Date: Dec 20, 2017

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Applicant : HUASHANG TRADE SUPPLY CHAIN(SHENZHEN) CO.LTD
Address : RM201,Bldg.A.NO.1,Qianwan First Rd Qianhai Shenzhen-Hong Kong cooperation zone.Shenzhen China

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

Sample Name : PLA material
Sample Model : PLA
塑料类 3D 打印耗材,PLA Filament, ABS Filament,
HIPS Filament, PETG Filament, PVA Filament,
Nylon Filament, Wood Filament,
Colour Change Filament by Temperature
Sample Received Date : Dec 17, 2017
Testing Period : Dec 17, 2017 To Dec 20, 2017
Test Requested : Selected test (s) in the selected parts as requested by client with the RoHS
2 Directive (EU) 2017/2102.
Test Method : Please refer to next page(s).
Test Result : Please refer to next page(s).
Submitted : The device described above is tested by us with the listed standards and
found it and model ROHS have the same material quality and
manufacturing engineering the model name. "PLA material" has
The Information : passed ROHS tests(Report No. BST1712850120001Y-1RR-4 has the
detailed content).So, no tests are necessary. The test results are contained
in this test report.

Signed for and on behalf of

Andy Zheng/ Technical Director

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Dongguan BST Testing Co., Ltd.

A1201-1204 Xinsanqi Of Dongbao Road, Dongcheng District, Tel:400-882-9628 Fax:86-769-23020106
Dongguan, Guangdong, China, E-mail:christina@bst-lab.com Http://www.bst-lab.com Complaints hotline:86-755-26747756



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Test Content:

Test Item(s)	Test Method	Reference	Unit	Limit	MDL
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES	mg/kg	100	2
Lead(Pb)	IEC 62321-5:2013	ICP-OES	mg/kg	1000	2
Mercury(Hg)	IEC 62321-4:2013	ICP-OES	mg/kg	1000	2
Hexavalent Chromium(CrVI) (Metal)	IEC 62321-7-1:2015	UV-Vis	µg/cm ²	0.13	0.1
Hexavalent Chromium(CrVI) (Nonmetal)	IEC 62321-7-2:2017	UV-Vis	mg/kg	1000	8
PBBs (Next form)	IEC 62321-6:2015	GC-MS	mg/kg	1000	5
PBDEs (Next form)	IEC 62321-6:2015	GC-MS	mg/kg	1000	5
Dibutyl Phthalate(DBP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30
Butyl benzyl phthalate (BBP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30
Di-(2-ethylhexyl) Phthalate(DEHP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30
Diisobutyl phthalate (DIBP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30

PBBs		PBDEs	
Monobromobiphenyl	Hexabromobiphenyl	Monobromodiphenyl ether	Hexabromodiphenyl ether
Dibromobiphenyl	Heptabromobiphenyl	Dibromodiphenyl ether	Heptabromodiphenyl ether
Tribromobiphenyl	Octabromobiphenyl	Tribromodiphenyl ether	Octabromodiphenyl ether
Tetrabromobiphenyl	Nonabromobiphenyl	Tetrabromodiphenyl ether	Nonabromodiphenyl ether
Pentabromobiphenyl	Decabromobiphenyl	Pentabromodiphenyl ether	Decabromodiphenyl ether

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Sample Description:

No.	Description	Name
1	Metal	Fluorescent Green Plastic
2	Plastic	Green Plastic 1
3	Plastic	Green Plastic 2
4	Plastic	Blue Plastic 1
5	Plastic	Blue Plastic 2
6	Metal	Blue Plastic 3
7	Plastic	Blue Plastic 4
8	Plastic	Black Plastic
9	Plastic	White Plastic
10	PCB	Light Pink Plastic
11	Resistance	Red Plastic
12	Capacitance	Brown Plastic
13	IC	Light Purple Plastic
14	Diode	Yellow Plastic
15	Triode	Yellow Phosphor Plastic
16	Plastic	Khaki Plastic
17	Metal	Gray Plastic
18	Metal	Silver Plastic
19	Plastic	Pink Plastic
20	Metal	Golden Plastic

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Test Results:

Test Item(s)	No.1	No.2	No.3	No.4	No.5
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (CrVI)	N.D.	N.D.	N.D.	N.D.	N.D.
PBBs	N.D.	N.D.	N.D.	N.D.	N.D.
PBDEs	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Di-(2-ethylhexyl) Phthalate(DEHP)	N.D.	N.D.	N.D.	N.D.	N.D.
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Test Item(s)	No.6	No.7	No.8	No.9	No.10
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (CrVI)	N.D.	N.D.	N.D.	N.D.	N.D.
PBBs	N.D.	N.D.	N.D.	N.D.	N.D.
PBDEs	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Di-(2-ethylhexyl) Phthalate(DEHP)	N.D.	N.D.	N.D.	N.D.	N.D.
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	N.D.

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Test Item(s)	No.11	No.12	No.13	No.14	No.15
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (CrVI)	N.D.	N.D.	N.D.	N.D.	N.D.
PBBs	N.D.	N.D.	N.D.	N.D.	N.D.
PBDEs	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Di-(2-ethylhexyl) Phthalate(DEHP)	N.D.	N.D.	N.D.	N.D.	N.D.
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Test Item(s)	No.16	No.17	No.18	No.19	No.20
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (CrVI)	N.D.	N.D.	N.D.	N.D.	N.D.
PBBs	N.D.	N.D.	N.D.	N.D.	N.D.
PBDEs	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	N.D.
Di-(2-ethylhexyl) Phthalate(DEHP)	N.D.	N.D.	N.D.	N.D.	N.D.
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	N.D.

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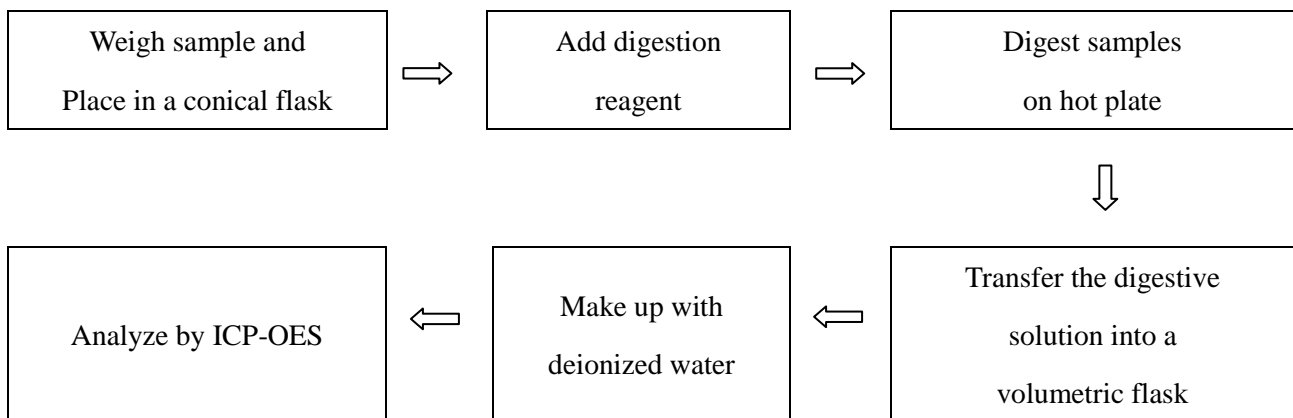
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- Note:**
1. mg/kg= ppm
 2. N.D.= Not Detected(<MDL)
 3. MDL = Method Detection Limit
 4. -- = No Testing
 5. when Cr(VI) in a sample is detected below the $0.10 \mu\text{g}/\text{cm}^2$ LOQ (limit of quantification), the sample is considered to be negative for Cr(VI). Since Cr(VI) may not be uniformly distributed in the coating even within the same sample batch, a "grey zone" between $0.10 \mu\text{g}/\text{cm}^2$ and $0.13 \mu\text{g}/\text{cm}^2$ has been established as "inconclusive" to reduce inconsistent results due to unavoidable coating variations. In this case, additional testing may be necessary to confirm the presence of Cr(VI). When Cr(VI) is detected above $0.13 \mu\text{g}/\text{cm}^2$, the sample is considered to be positive for the presence of Cr(VI) in the coating layer. unavoidable coating variations may influence the determination Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

Test Process:

1. Test for Cd/Pb Content



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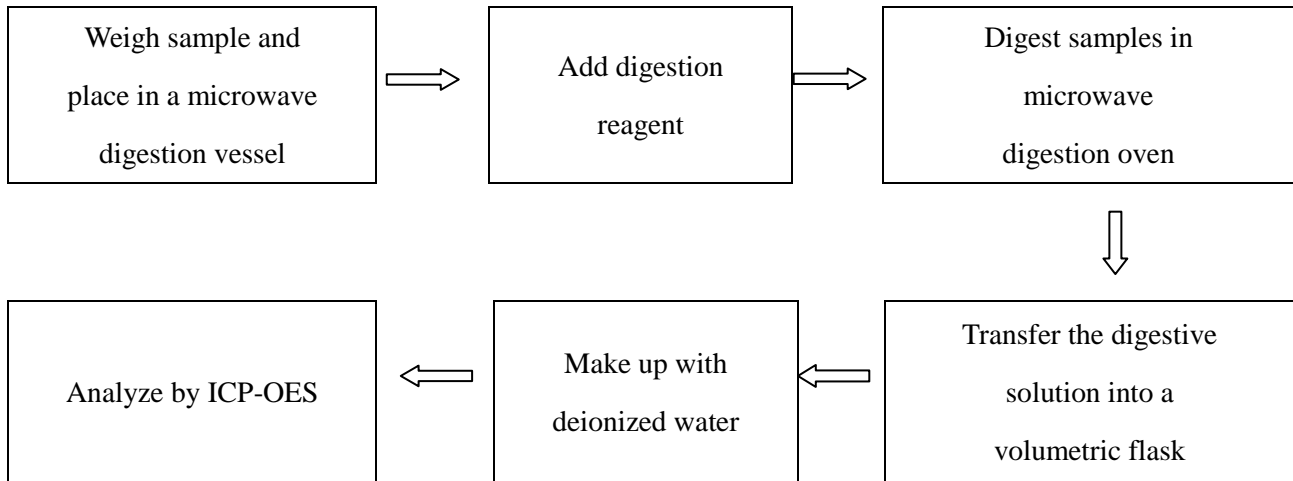


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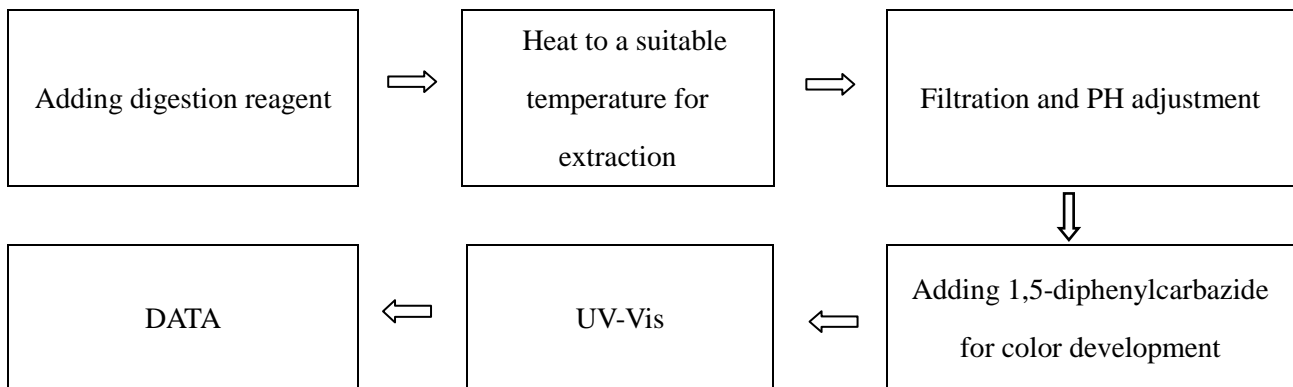
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2. Test for Hg Content

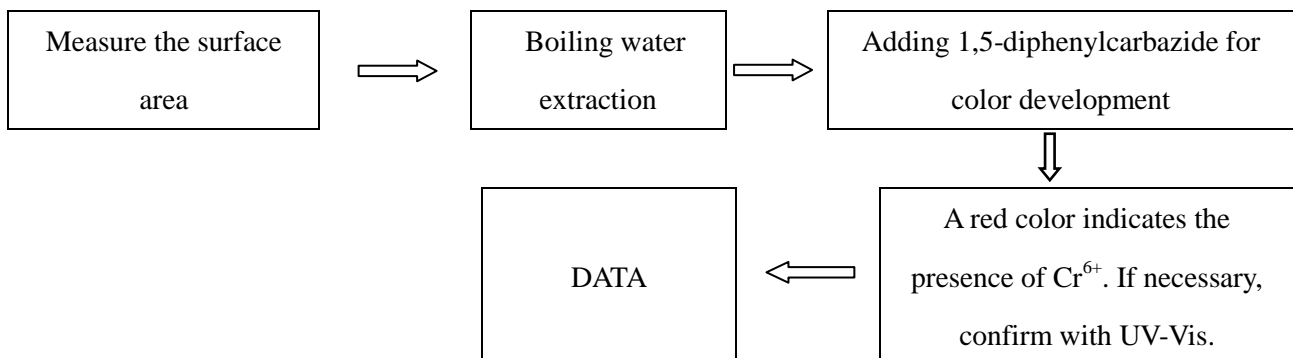


3. Test for Chromium (VI) Content

Nonmetal material



Metal material



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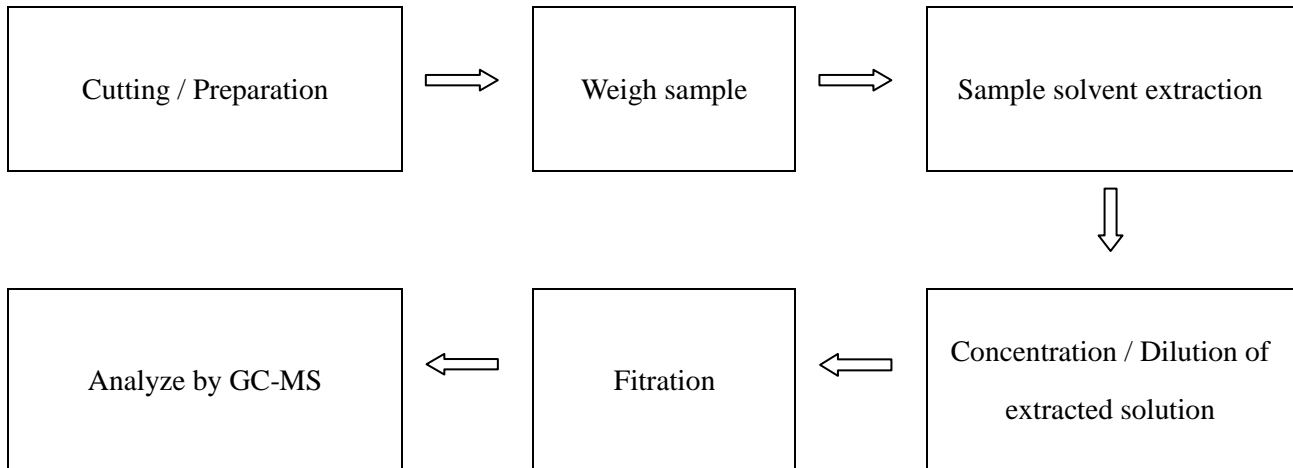


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4. Test for DBP, BBP, DEHP, DIBP, PBB, PBDE Content



Sample Photo:



*** End of Report ***

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