



Test Report

No.T32020210112TC

Date: JAN 16, 2020

Page 1 of 6

POLYKOTE INK & PAINT (SHENZHEN) LTD.
NO. 118, HUANG PU ROAD,
SHAJING SUBDISTRICT, BAOAN, SHENZHEN, CHINA (ZIP CODE: 518125)

The following samples were submitted and identified on behalf of the client as
PLEASE SEE ATTACHMENT

Sample Receiving Date : JAN 03, 2020
Testing Period : JAN 03, 2020 TO JAN 13, 2020

Test Requested	Conclusion
European RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU (Selected test items as specified by the applicant, please refer to test result page(s) for details)	PASS

***** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) *****

Signed for and on behalf of
SGS Hong Kong Ltd.

To Man Wah, Po
Technical Manager

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Attachment:

PAINT & INK NO.:	PAINT & INK COLOR:
939- / 99- / PVC / PT- / 539- / F / 8101 / 2 / 3 / 4 / 5 / 6 / 8	FLUORESCENT COLOR
939- / 99- / L / PT- / 539- / 5 / 9 / 611 / 622 / 621 / 1061 / S / M	WHITE
939- / 99- / L / PT- / 539- / 5 / 911 / 9922 / 1091 / M	BLACK
939- / 99- / L / PT- / 539- / 5 / 9 / 020 / 111B / 114 / 872 / M	ORANGE & RED & BROWN
939- / 99- / L / PT- / 539- / 5 / 9 / 195 / 115 / 333 / B / C / M	RED & MAGNETA
939- / 99- / L / L / PT- / 539- / 5 / 9 / 210 / 213 / 222 / 244A / LUMINOUS / M	YELLOW
939- / 99- / L / PT- / 539- / 5 / 9 / 791 / 391 / 385 / 371A / 081 / M	GREEN & BLUE & VIOLET
939- / 99- / L / PT- / 539- / 4S / 5 / 9900 / 1 / 2 / 6 / 10D / 37 / 82E / M	SILVER
939- / 99- / L / PT- / 539- / 5 / 9 / 8 / 00 / 0 / 1 / M	PEARL W/LACQUER

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Test Results:
1. European RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Wet Chemical for Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs content

Method :

- For Lead, Cadmium : With reference to IEC 62321-5:2013, analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) / Atomic Absorption Spectrometer (AAS).
- For Mercury : With reference to IEC 62321-4:2013+AMD1:2017, analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES).
- For PBB and PBDEs : With reference to IEC 62321-6:2015, analysis was performed by Gas Chromatography Mass Spectrometer (GC-MS)
- For Chromium (VI) : With reference to IEC 62321-7-1:2015, analysis was performed by Ultraviolet Visible Spectrophotometer (UV-Vis)

Test Item	Result (mg/kg)		Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
	1 – 9			
Cadmium (Cd)	ND		5	100
Lead (Pb)	ND		5	1000
Mercury (Hg)	ND		5	1000
Hexavalent Chromium (Cr(VI))	ND		5	1000
Hexavalent Chromium by spot test / boiling water extraction (Cr(VI))	--		#	#
Sum of PBBs	ND		--	1000
Monobromobiphenyl	ND		5	--
Dibromobiphenyl	ND		5	--
Tribromobiphenyl	ND		5	--
Tetrabromobiphenyl	ND		5	--
Pentabromobiphenyl	ND		5	--
Hexabromobiphenyl	ND		5	--
Heptabromobiphenyl	ND		5	--
Octabromobiphenyl	ND		5	--
Nonabromobiphenyl	ND		5	--
Decabromobiphenyl	ND		5	--
Sum of PBDEs	ND		--	1000
Monobromodiphenyl ether	ND		5	--
Dibromodiphenyl ether	ND		5	--
Tribromodiphenyl ether	ND		5	--
Tetrabromodiphenyl ether	ND		5	--
Pentabromodiphenyl ether	ND		5	--
Hexabromodiphenyl ether	ND		5	--
Heptabromodiphenyl ether	ND		5	--
Octabromodiphenyl ether	ND		5	--
Nonabromodiphenyl ether	ND		5	--
Decabromodiphenyl ether	ND		5	--
Comment	PASS		--	--

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Specimen Description:

1. Fluorescent color ink (939- / PVC / PT- / 539- / F / 8101 / 2 / 3 / 4 / 5 / 6 / 8)
2. White ink (939- / 99- / L / PT - / 539 - / 5 / 9 / 611 / 622 / 621 / 1061 / S / M)
3. Black ink (939- / 99- / L / PT- / 539- / 5 / 911 / 9922 / 1091 / M)
4. Orange w/ red w/ brown ink (939- / 99- / L / PT- / 539- / 5 / 9 / 020 / 111B / 114 / 872 / M)
5. Yellow ink (939- / 99- / L / PT- / 539- / 5 / 9 / 210 / 213 / 222 / 244A / LUMINOUS / M)
6. Red w/ magenta ink (939- / 99- / L / PT- / 539- / 5 / 9 / 195 / 115 / 333 / B / C / M)
7. Green w/ blue w/ violet ink (939- / 99- / L / PT- / 539- / 5 / 9 / 791 / 391 / 385 / 371 A / 081 / M)
8. Silver ink (939- / 99- / L / PT- / 539- / 4S / 5 / 9900 / 1 / 2 / 6 / 10D / 37 / 82E / M)
9. Pearl w/ lacquer ink (939- / 99- / L / PT- / 539- / 5 / 9 / 8 / 00 / 0 / 1 / M)

- Note:
- mg/kg = milligram per kilogram
 - MDL = Method Detection Limit
 - ND = Not Detected (lower than MDL)
 - -- = Not Conducted
 - # Positive indicates the presence of Cr(VI) on the tested areas and result be regarded as conflict with RoHS requirement. Negative indicates the absence of Cr(VI) on the tested areas and result be regarded as no conflict with RoHS requirement.
 - The maximum permissible limit is quoted from the EU Directive 2011/65/EU Annex II

2. European RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU – DEHP, BBP, DBP and DIBP content

Method : With reference to IEC 62321-8:2017. Analysis was performed by Gas Chromatography / Mass Spectrometry

Test Item	CAS No.	Result (%)	Reporting Limit (%)	Permissible Limit (%)
		1 – 9		
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	ND	0.003	0.1
Benzylbutyl Phthalate (BBP)	85-68-7	ND	0.003	0.1
Dibutyl Phthalate (DBP)	84-74-2	ND	0.003	0.1
Diisobutyl phthalate (DIBP)	84-69-5	ND	0.003	0.1
Comment	--	PASS	--	--

Specimen Description:

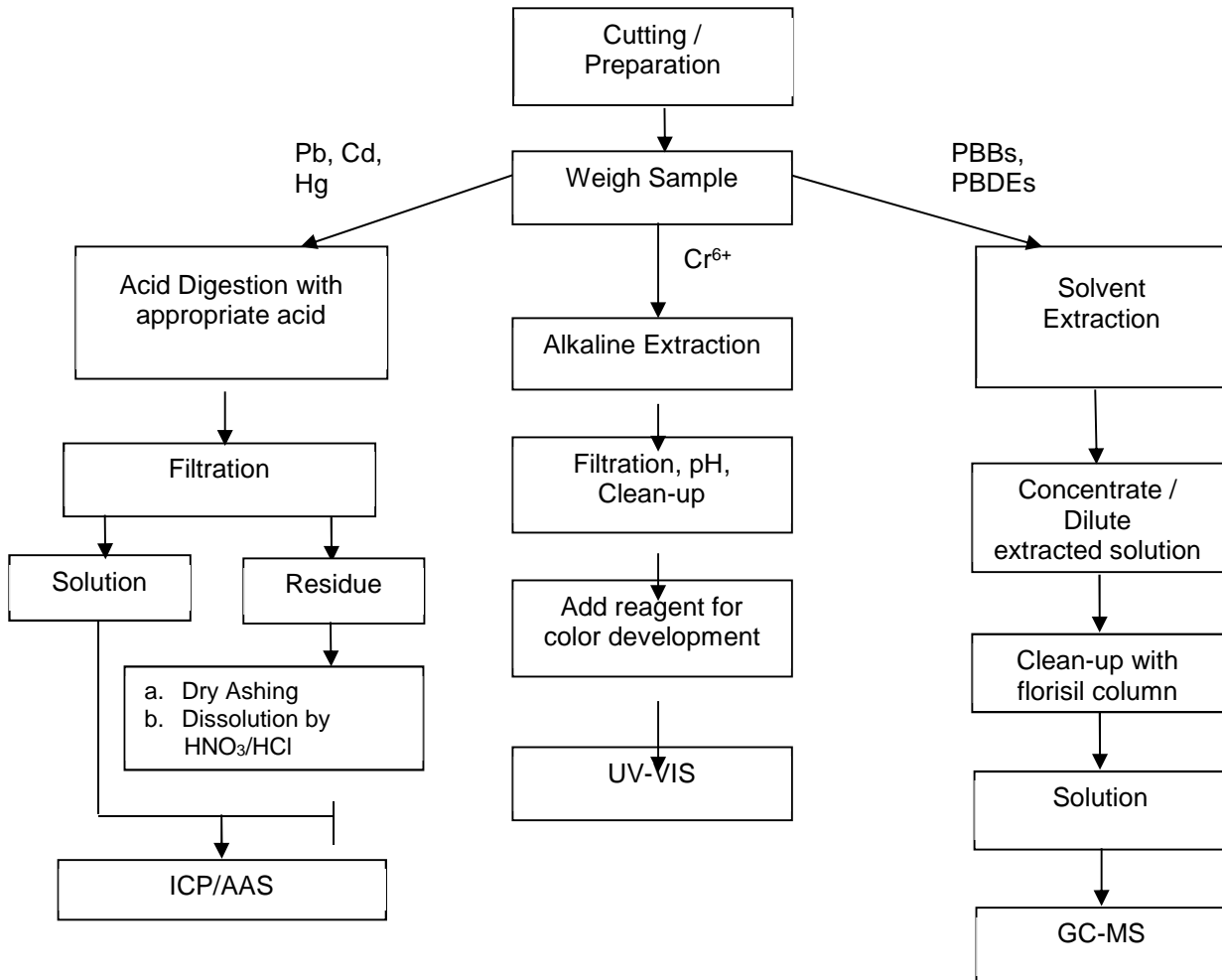
1. Fluorescent color ink (939- / PVC / PT- / 539- / F / 8101 / 2 / 3 / 4 / 5 / 6 / 8)
2. White ink (939- / 99- / L / PT - / 539 - / 5 / 9 / 611 / 622 / 621 / 1061 / S / M)
3. Black ink (939- / 99- / L / PT- / 539- / 5 / 911 / 9922 / 1091 / M)
4. Orange w/ red w/ brown ink (939- / 99- / L / PT- / 539- / 5 / 9 / 020 / 111B / 114 / 872 / M)
5. Yellow ink (939- / 99- / L / PT- / 539- / 5 / 9 / 210 / 213 / 222 / 244A / LUMINOUS / M)
6. Red w/ magenta ink (939- / 99- / L / PT- / 539- / 5 / 9 / 195 / 115 / 333 / B / C / M)
7. Green w/ blue w/ violet ink (939- / 99- / L / PT- / 539- / 5 / 9 / 791 / 391 / 385 / 371 A / 081 / M)
8. Silver ink (939- / 99- / L / PT- / 539- / 4S / 5 / 9900 / 1 / 2 / 6 / 10D / 37 / 82E / M)
9. Pearl w/ lacquer ink (939- / 99- / L / PT- / 539- / 5 / 9 / 8 / 00 / 0 / 1 / M)

- Note :
1. % = percentage by weight
 2. ND = Not Detected

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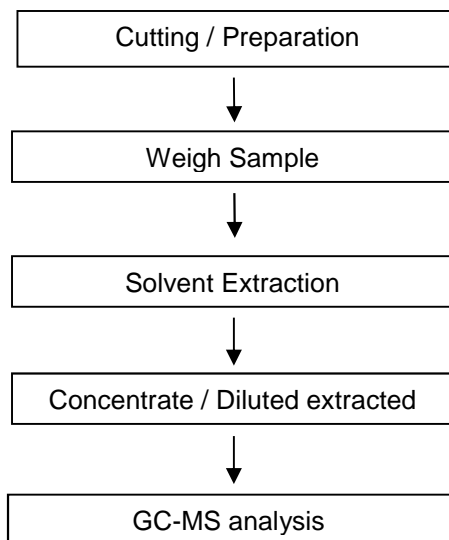
Flowchart:



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Flowchart:



- Note : 1. For Cr(VI), spot test is adopted for metal sample.
 2. The Cd and Pb contents test on polymeric samples were dissolved totally by pre-conditioning method according to above flow chart.

Sample Photo:



SGS authenticate the photo on original report only
 *** End of Report ***

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