



Test Report

No.T32020210111TC

Date: JAN 16, 2020

Page 1 of 7

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 by/on behalf of the client as:
PLEASE SEE ATTACHMENT

Sample Receiving Date : JAN 03, 2020
Testing Period : JAN 03, 2020 TO JAN 16, 2020

Test Requested	Conclusion
Directive 2009/48/EC and its amendment Council Directive (EU) 2017/738, Commission Directive (EU) 2018/725, Commission Directive (EU) 2019/1922 – EN 71-3:2019 – Migration of certain elements (All conclusive testing) (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 & MAGENTA
939- / 99- / 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:
Directive 2009/48/EC and its amendment Council Directive (EU) 2017/738, Commission Directive (EU) 2018/725, Commission Directive (EU) 2019/1922 – EN 71-3:2019 – Migration of certain elements

Category III: Scraped-off toy material

Method: With reference to EN 71-3:2019. Analysis of general elements was performed by ICP-OES. Chromium (III) was obtained by calculation, chromium (VI) was analyzed by IC-UV-Vis and organic tin was analyzed by GC-MS.

Test Item(s)	Result(s)			MDL	Permissible Limit
Specimen No.	1	2	3	--	--
Mass of trace amount (mg)	24.7	12.3	16.7	--	--
Soluble Aluminium (Al) (mg/kg)	ND	ND	ND	50	28130
Soluble Antimony (Sb) (mg/kg)	ND	ND	ND	10	560
Soluble Arsenic (As) (mg/kg)	ND	ND	ND	10	47
Soluble Barium (Ba) (mg/kg)	ND	ND	ND	50	18750
Soluble Boron (B) (mg/kg)	ND	ND	ND	50	15000
Soluble Cadmium (Cd) (mg/kg)	ND	ND	ND	5	17
Soluble Chromium ⁺ (Cr) (mg/kg)	ND	ND	ND	0.15	--
Soluble Chromium (III) (Cr (III)) (mg/kg)	ND	ND	ND	1	460
Soluble Chromium (VI) (Cr (VI)) (mg/kg)	ND	ND	ND	0.010	0.053
Soluble Cobalt (Co) (mg/kg)	ND	ND	ND	10	130
Soluble Copper (Cu) (mg/kg)	ND	ND	ND	50	7700
Soluble Lead (Pb) (mg/kg)	ND	ND	ND	2.3	23
Soluble Manganese (Mn) (mg/kg)	ND	ND	ND	50	15000
Soluble Mercury (Hg) (mg/kg)	ND	ND	ND	10	94
Soluble Nickel (Ni) (mg/kg)	ND	ND	ND	10	930
Soluble Selenium (Se) (mg/kg)	ND	ND	ND	10	460
Soluble Strontium (Sr) (mg/kg)	ND	ND	ND	50	56000
Soluble Tin (Sn) (mg/kg)	ND	ND	ND	3.0	180000
Soluble Organic Tin -- (mg/kg)	ND	ND	ND	--	12
Soluble Zinc (Zn) (mg/kg)	ND	ND	ND	50	46000

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Test Item(s)	Result(s)			MDL	Permissible Limit
	4	5	6		
Specimen No.				--	--
Mass of trace amount (mg)	50.7	18.4	27.9	--	--
Soluble Aluminium (Al) (mg/kg)	ND	ND	ND	50	28130
Soluble Antimony (Sb) (mg/kg)	ND	ND	ND	10	560
Soluble Arsenic (As) (mg/kg)	ND	ND	ND	10	47
Soluble Barium (Ba) (mg/kg)	ND	ND	ND	50	18750
Soluble Boron (B) (mg/kg)	ND	ND	ND	50	15000
Soluble Cadmium (Cd) (mg/kg)	ND	ND	ND	5	17
Soluble Chromium ⁺ (Cr) (mg/kg)	ND	ND	ND	0.15	--
Soluble Chromium (III) (Cr (III)) (mg/kg)	ND	ND	ND	1	460
Soluble Chromium (VI) (Cr (VI)) (mg/kg)	ND	ND	ND	0.010	0.053
Soluble Cobalt (Co) (mg/kg)	ND	ND	ND	10	130
Soluble Copper (Cu) (mg/kg)	ND	ND	ND	50	7700
Soluble Lead (Pb) (mg/kg)	ND	ND	ND	2.3	23
Soluble Manganese (Mn) (mg/kg)	ND	ND	ND	50	15000
Soluble Mercury (Hg) (mg/kg)	ND	ND	ND	10	94
Soluble Nickel (Ni) (mg/kg)	ND	ND	ND	10	930
Soluble Selenium (Se) (mg/kg)	ND	ND	ND	10	460
Soluble Strontium (Sr) (mg/kg)	ND	ND	ND	50	56000
Soluble Tin (Sn) (mg/kg)	ND	ND	ND	3.0	180000
Soluble Organic Tin -- (mg/kg)	ND	ND	ND	--	12
Soluble Zinc (Zn) (mg/kg)	ND	ND	ND	50	46000

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Test Item(s)	Result(s)			MDL	Permissible Limit
	7	8	9		
Specimen No.				--	--
Mass of trace amount (mg)	26.0	14.4	76.5	--	--
Soluble Aluminium (Al) (mg/kg)	ND	685	ND	50	28130
Soluble Antimony (Sb) (mg/kg)	ND	ND	ND	10	560
Soluble Arsenic (As) (mg/kg)	ND	ND	ND	10	47
Soluble Barium (Ba) (mg/kg)	ND	ND	ND	50	18750
Soluble Boron (B) (mg/kg)	ND	ND	ND	50	15000
Soluble Cadmium (Cd) (mg/kg)	ND	ND	ND	5	17
Soluble Chromium ⁺ (Cr) (mg/kg)	ND	ND	ND	0.15	--
Soluble Chromium (III) (Cr (III)) (mg/kg)	ND	ND	ND	1	460
Soluble Chromium (VI) (Cr (VI)) (mg/kg)	ND	ND	ND	0.010	0.053
Soluble Cobalt (Co) (mg/kg)	ND	ND	ND	10	130
Soluble Copper (Cu) (mg/kg)	ND	ND	ND	50	7700
Soluble Lead (Pb) (mg/kg)	ND	ND	ND	2.3	23
Soluble Manganese (Mn) (mg/kg)	ND	ND	ND	50	15000
Soluble Mercury (Hg) (mg/kg)	ND	ND	ND	10	94
Soluble Nickel (Ni) (mg/kg)	ND	ND	ND	10	930
Soluble Selenium (Se) (mg/kg)	ND	ND	ND	10	460
Soluble Strontium (Sr) (mg/kg)	ND	ND	ND	50	56000
Soluble Tin (Sn) (mg/kg)	ND	ND	ND	3.0	180000
Soluble Organic Tin -- (mg/kg)	ND	ND	ND	--	12
Soluble Zinc (Zn) (mg/kg)	ND	ND	ND	50	46000

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Test Item(s)	Soluble Organic Tin Result(s) (mg/kg)			MDL (mg/kg)
	1	2	3	
Dimethyl tin (DMT)	ND	ND	ND	0.3
Methyl tin (MeT)	ND	ND	ND	0.3
Di-n-propyl tin (DProT)	ND	ND	ND	0.3
Butyl tin (BuT)	ND	ND	ND	0.3
Dibutyl tin (DBT)	ND	ND	ND	0.3
Tributyl tin (TBT)	ND	ND	ND	0.3
n-Octyl tin (MOT)	ND	ND	ND	0.3
Tetrabutyl tin (TeBT)	ND	ND	ND	0.3
Diphenyl tin (DPhT)	ND	ND	ND	0.3
Di-n-octyl tin (DOT)	ND	ND	ND	0.3
Triphenyl tin (TPhT)	ND	ND	ND	0.3

Test Item(s)	Soluble Organic Tin Result(s) (mg/kg)			MDL (mg/kg)
	4	5	6	
Dimethyl tin (DMT)	ND	ND	ND	0.3
Methyl tin (MeT)	ND	ND	ND	0.3
Di-n-propyl tin (DProT)	ND	ND	ND	0.3
Butyl tin (BuT)	ND	ND	ND	0.3
Dibutyl tin (DBT)	ND	ND	ND	0.3
Tributyl tin (TBT)	ND	ND	ND	0.3
n-Octyl tin (MOT)	ND	ND	ND	0.3
Tetrabutyl tin (TeBT)	ND	ND	ND	0.3
Diphenyl tin (DPhT)	ND	ND	ND	0.3
Di-n-octyl tin (DOT)	ND	ND	ND	0.3
Triphenyl tin (TPhT)	ND	ND	ND	0.3

Test Item(s)	Soluble Organic Tin Result(s) (mg/kg)			MDL (mg/kg)
	7	8	9	
Dimethyl tin (DMT)	ND	ND	ND	0.3
Methyl tin (MeT)	ND	ND	ND	0.3
Di-n-propyl tin (DProT)	ND	ND	ND	0.3
Butyl tin (BuT)	ND	ND	ND	0.3
Dibutyl tin (DBT)	ND	ND	ND	0.3
Tributyl tin (TBT)	ND	ND	ND	0.3
n-Octyl tin (MOT)	ND	ND	ND	0.3
Tetrabutyl tin (TeBT)	ND	ND	ND	0.3
Diphenyl tin (DPhT)	ND	ND	ND	0.3
Di-n-octyl tin (DOT)	ND	ND	ND	0.3
Triphenyl tin (TPhT)	ND	ND	ND	0.3

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Specimen Description:

1. Fluorescent color ink (939- / 99- / 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 / 371A / 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
 - mg = milligram
 - ND = Not Detected (lower than MDL)
 - MDL = Method Detection Limit
 - 1% = 10000 mg/kg = 10000 ppm
 - + Soluble Chromium is not restricted by EN71-3:2019, results shown only for reference

Sample Photo:



SGS authenticate the photo on original report only

*** End of Report ***

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