

Test Report

Report No. A2170035612164

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Applicant GREAT WORLD INK & PAINT COMPANY, LTD.,

Address CING HU GONG YE QU SHIH JHEN DONGGUAN GUANG DONG SHENG P.R CHINA

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

Sample Name	OPV-W-010G,011G,012G,013G
Sample Color	white
Material composition	ink
Sample Received Date	Dec. 26, 2017
Testing Period	Dec. 26, 2017 to Dec. 29, 2017

Test Conducted:

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

Tested by

Pine Pei

Reviewed by

Shao Xuan

Approved by

Yanna Cao

Date

Dec. 29, 2017

Yanna Cao
Lab Manager

No. S196493641

Report Seal
Centre Testing International Group Co.,Ltd. CTI Building, No.4, Liuxian 3rd road, Xin'an Street, Bao'an District, Shenzhen, P.R.China

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Executive Summary:

TEST REQUEST

EN 71-3:2013+A1:2014 Migration of certain elements

- Migration of certain elements

CONCLUSION

PASS

***** For Further Details, Please Refer to the Following Page(s) *****

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EN 71-3:2013+A1:2014 Migration of certain elements

▼ Migration of certain elements

Method(s) EN 71-3:2013+A1:2014 was/were used, and the item(s) was/were analyzed by ICP-OES, ICP-MS, HPLC-ICP-MS and/or GC-MS.

Category III: scraped-off toy material

Tested Item(s)	Result (mg/kg)	MDL	Limit
	001	(mg/kg)	(mg/kg)
Aluminium (Al)	N.D.	50	70000
Antimony (Sb)	N.D.	5	560
Arsenic (As)	N.D.	5	47
Barium (Ba)	N.D.	50	18750
Boron (B)	N.D.	50	15000
Cadmium (Cd)	N.D.	1	17
Chromium (III) ^{#1}	N.D.	0.2	460
Chromium (VI)	N.D.	0.002	0.2
Cobalt (Co)	N.D.	5	130
Copper (Cu)	N.D.	50	7700
Lead (Pb)	N.D.	5	160
Manganese (Mn)	N.D.	50	15000
Mercury (Hg)	N.D.	5	94
Nickel (Ni)	N.D.	5	930
Selenium (Se)	N.D.	5	460
Strontium (Sr)	N.D.	50	56000
Tin (Sn) ^{#2}	N.D.	2	180000
Organic tin (TBT) ^{#3}	N.D.	0.05	12
Zinc (Zn)	N.D.	50	46000

Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- Filter paper was used instead of membrane filter in lab testing.
- As specified by the client, the test result(s) was/ were based on the dry weight of the submitted sample(s). The result is to be calculated on a dry weight basis.

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- #1 Trivalent chromium (Cr (III)) = Chromium (Cr) - Hexavalent chromium (Cr (VI)), where the chromium content exceeded the limits of hexavalent chromium and/or trivalent chromium, then hexavalent chromium was analyzed by HPLC-ICP-MS and trivalent chromium content was calculated using the formula.
- #2 Tin(Sn) content can be used for screen test for organic tins analysis to show compliance with the requirement of EN 71-3:2013+A1:2014.
- #3 The migration of organic tin is expressed as tributyltin (TBT). where the tin content exceeded the limit of organic tin, ten organic tins listed in table were determined by GC-MS and the client should be noted there are other organic tins may be present in toy materials.

Organic tins tested under EN 71-3:2013+A1:2014
Methyl tin (MeT)
Butyl tin (BuT)
Dibutyl tin (DBT)
Tributyl tin (TBT)
Tetrabutyl tin (TeBT)
n-Octyl tin (MOT)
Di-n-octyl tin (DOT)
Di-n-propyl tin (DProT)
Diphenyl tin (DPhT)
Triphenyl tin (TPhT)

Tested Sample/Part Description

001 White ink

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Photo(s) of the sample(s)



*** End of Report ***

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