

# Test Report

Report No. SCL01J00056001001

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**Applicant** ZHANGZHOU YINMEI PRINTING INK CO., LTD

**Address** DONGCHE VILLAGE , HUOTIAN TOWN, YUNXIAO COUNTY, ZHANGZHOU CITY , FUJIAN PROVINCE, CHINA

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

**Sample Name** INK  
**Client Reference** S560(PSC)、C505 (PS)、A521 (PSNP)  
**Information** 01100(110)、10200(102)、10400(104)、20000(200)、20010、20300(203)、20380、20600(206)、20610、20700(207)、20900(209)、21000(210)、22000、22240、23000、30000(300)、30100(301)、30200(302)、30300(303)、30380(3038)、30400(304)、30600(306)、30700(307)、30730(3073)、30740(3074)、30800(308)、30910、30970、30980、31400(314)、31500(315)、40100(401)、40200(402)、40300(403)、40310、40400(404)、40600(406)、40700(407)、40800(408)、449、50000(500)、50100(501)、50200(502)、50300(Conductive black)、60100(601)、60200(602)、70100(701)、70200、80100(801)、80105、90100(901)、90200(902)、21310(131)、31330(133)、31340(134)、31580(158)、31590(159)、41480(148)、61400(140)、01200(2000)、01300(4000)

**Sample Received Date** Jan. 4, 2017

**Testing Period** Jan. 4, 2017 to Jan. 10, 2017

## Test Conducted:

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

Tested by

*Moon Zhang*

Reviewed by

*Anders Jørgensen*

Approved by

*Danny Liu*

Date

Jan. 10, 2017

Danny Liu

Technical Manager

No. R158921728

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China



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## Executive Summary:

### TEST REQUEST

- (1) ASTM F963-11 Standard Consumer Safety Specification for Toy Safety
- Clause 4.3.5 Heavy elements – Migration of certain elements
- (2) European Standard on Safety of Toys
- EN 71-3:2013+A1:2014 Migration of certain elements

### CONCLUSION

**PASS**

**PASS**

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

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**(1) ASTM F963-11 Standard Consumer Safety Specification for Toy Safety**

**▼ Clause 4.3.5 Heavy elements – Migration of certain elements**

Method(s) ASTM F963-11 Clause 8.3 was/were used, and the item(s) was/were analyzed by ICP-OES.

| <u>Tested Item(s)</u> | <u>Result (mg/kg)</u> | <u>MDL (mg/kg)</u> | <u>Limit (mg/kg)</u> |
|-----------------------|-----------------------|--------------------|----------------------|
| Soluble Antimony (Sb) | N.D.                  | 5                  | 60                   |
| Soluble Arsenic (As)  | N.D.                  | 2.5                | 25                   |
| Soluble Barium (Ba)   | N.D.                  | 5                  | 1000                 |
| Soluble Cadmium (Cd)  | N.D.                  | 5                  | 75                   |
| Soluble Chromium (Cr) | N.D.                  | 2.5                | 60                   |
| Soluble Lead (Pb)     | N.D.                  | 5                  | 90                   |
| Soluble Mercury (Hg)  | N.D.                  | 2.5                | 60                   |
| Soluble Selenium (Se) | N.D.                  | 5                  | 500                  |

**Remark:**

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- Results shown of soluble elements are of adjusted analytical results by subtracting analytical Correction factor.
- Filter paper was used instead of 0.45µm membrane filter in lab testing.
- The test result(s) is(are) presented in reference to the result(s) that reported in SCL01J000560010.

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## (2) European Standard on Safety of Toys

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

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

### Category III: scraped-off toy material

| <u>Tested Item(s)</u>           | <u>Result (mg/kg)</u> | <u>MDL (mg/kg)</u> | <u>Limit (mg/kg)</u> |
|---------------------------------|-----------------------|--------------------|----------------------|
| 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) <sup>#1</sup>    | 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) <sup>#2</sup>          | N.D.                  | 2                  | 180000               |
| Organic tin (TBT) <sup>#3</sup> | N.D.                  | 0.05               | 12                   |
| Zinc (Zn)                       | N.D.                  | 50                 | 46000                |

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**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.
- <sup>#1</sup> 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.
- <sup>#2</sup> 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.
- <sup>#3</sup> 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<br>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)                              |

- The test result(s) is(are) presented in reference to the result(s) that reported in SCL01J000560010.

**Tested Sample/Part Description**

Blue liquid