

# Test Report

Report No. SCL01J00056001101

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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** S350(SPL)、S650 (PR)

**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

*Meon Zhang*

Reviewed by

*Antony*

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</u><br>(mg/kg) | <u>Limit</u><br>(mg/kg) |
|-----------------------|-----------------------|-----------------------|-------------------------|
| 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 SCL01J000560011.

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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)                  | 246                   | 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)                       | 1592                  | 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 SCL01J000560011.

**Tested Sample/Part Description**

Gray-black liquid