

Test Report No.T51910220021JP Date: MAR 12, 2019 Page 1 of 5

JIAN PLASTIC & METAL PRODUCTS LTD NO.3-1, SOUTH GAOBU BLVD, GAOBU TOWN, DONGGUAN CITY, GUANGDONG PROVINCE, CHINA, ZIP CODE:523278

The following samples were submitted and identified by/on behalf of the client as:

GOLD PLATED

Buyer : WORLD WIDE

Manufacturer : CHINA

Country of Origin : CHINA

Country of Destination : WORLD WIDE

Requested Age Grading : 3+

Sample Receiving Date : MAR 06, 2019

Testing Period : MAR 06, 2019 TO MAR 12, 2019





Test Report No. T51910220021JP Date: MAR 12, 2019 Page 2 of 5

| Test | Conclusion | | |
|------|--|------|--|
| 1. | Directive 2009/48/EC and its amendment Council Directive (EU) 2017/738 – EN 71-3:2013 + A3:2018 – Migration of certain elements (All conclusive testing) | PASS | |
| 2. | ASTM F963-17 - Standard Consumer Safety Specification on Toy Safety – Heavy Elements content | | |
| | (Selected test items as specified by the applicant, please refer to test result page(s) for details) | | |
| | Heavy Elements content in substrate materials in submitted sample in accordance with ASTM F963-17 - Standard Consumer Safety Specification on Toy Safety, Clause 4.3.5.2 | PASS | |
| 3. | Japan Toy Safety Standard: Part 3: 2016 Second edition (Selected test items as specified by the applicant, please refer to test result page(s) for details) | | |
| | Clause 1.11 Metals used for toy | PASS | |

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

Signed for and on behalf of SGS-CSTC Standards Technical

Services Co., Ltd. Shenzhen Branch Testing Center







Test Report

No. T51910220021JP

Date: MAR 12, 2019

Page 3 of 5

Results:

1. Directive 2009/48/EC and its amendment Council Directive (EU) 2017/738 – EN 71-3:2013 + A3:2018 – Migration of certain elements

Category III: Scraped-off toy material

Method: With reference to EN 71-3:2013 + A3:2018. 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 | | | |
| Mass of trace amount (mg) | | | | | | |
| Soluble Aluminium | (AI) | (mg/kg) | ND | 50 | 70000 | |
| Soluble Antimony | (Sb) | (mg/kg) | ND | 10 | 560 | |
| Soluble Arsenic | (As) | (mg/kg) | ND | 10 | 47 | |
| Soluble Barium | (Ba) | (mg/kg) | ND | 50 | 18750 | |
| Soluble Boron | (B) | (mg/kg) | ND | 50 | 15000 | |
| Soluble Cadmium | (Cd) | (mg/kg) | ND | 5 | 17 | |
| Soluble Chromium | (Cr) | (mg/kg) | ND | 0.15 | | |
| Soluble Chromium (III) | (Cr (III)) | (mg/kg) | ND | 1 | 460 | |
| Soluble Chromium (VI) | (Cr (VI)) | (mg/kg) | ND | 0.12 | 0.2 | |
| Soluble Cobalt | (Co) | (mg/kg) | ND | 10 | 130 | |
| Soluble Copper | (Cu) | (mg/kg) | ND | 50 | 7700 | |
| Soluble Lead | (Pb) | (mg/kg) | ND | 10 | 23 | |
| Soluble Manganese | (Mn) | (mg/kg) | ND | 50 | 15000 | |
| Soluble Mercury | (Hg) | (mg/kg) | ND | 10 | 94 | |
| Soluble Nickel | (Ni) | (mg/kg) | ND | 10 | 930 | |
| Soluble Selenium | (Se) | (mg/kg) | ND | 10 | 460 | |
| Soluble Strontium | (Sr) | (mg/kg) | ND | 50 | 56000 | |
| Soluble Tin | (Sn) | (mg/kg) | ND | 3.0 | 180000 | |
| Soluble Organic Tin | | (mg/kg) | ND | | 12 | |
| Soluble Zinc | (Zn) | (mg/kg) | ND | 50 | 46000 | |

Specimen Description:

1. Gold plated



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Test Report No. T51910220021JP Date: MAR 12, 2019 Page 4 of 5

Note: - mg/kg = milligram per kilogram

- mg = milligram

- ND = Not Detected (lower than MDL)

- MDL = Method Detection Limit

-1% = 10000 mg/kg = 10000 ppm

2. ASTM F963-17, Clause 4.3.5.2 - Heavy Elements in Substrate Materials

Method: With reference to ASTM F963-17 Clause 8.3

Analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)

Soluble Heavy Metal Content

| Test Item(s) | | | | Pb | Sb | As | Ва | Cd | Cr | Hg | Se |
|---|--------------|-------------|---------------------------|------------------------------------|----|-----|------|----|----|----|-----|
| MDL (ppm) | | | | 5 | 5 | 2.5 | 10 | 5 | 5 | 5 | 10 |
| Migration Limit (ppm) Other Than Modeling Clays | | | | 90 | 60 | 25 | 1000 | 75 | 60 | 60 | 500 |
| Migration Limit (ppm) Modeling Clays | | | | 90 | 60 | 25 | 250 | 50 | 25 | 25 | 500 |
| Specimen No. | Alias No. | Tracing No. | Mass of trace amount (mg) | Adjusted Migration Result(s) (ppm) | | | | | | | |
| 1 | 2 | 1 | / | ND | ND | ND | ND | ND | ND | ND | ND |

Specimen Description:

1. Gold plated

Note: - ppm = parts per million

 $-1\% = 10000 \text{ mg/kg} = 10000 \text{ ppm} = 10000 \text{ } \mu\text{g/g}$

- ND = Not Detected (lower than MDL)

- MDL = Method Detection Limit

- Migration results of eight elements shown are of the adjusted analytical results



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Test Report

No. T51910220021JP

Date: MAR 12, 2019

Page 5 of 5

3. Japan Toy Safety Standard: Part 3: 2016 Second edition

Method: As specified in Japan Toy Safety Standard: Part 3: 2016 Second edition

Clause 1.11 Metals used for toy (neither painted nor covered)

| Test Item | Pb |
|----------------------|--------------------|
| MDL (mg/kg) | 5 |
| Limit (mg/kg) | 90 |
| Specimen Description | Adjusted Migration |
| Specimen Description | Result(s) (mg/kg) |
| Gold plated | ND |

Note:

- mg/kg = milligram per kilogram
- MDL = Method Detection Limit
- ND = Not Detected (lower than MDL)
- Results shown are of the adjusted analytical result

Sample Photo:



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*** End of Report ***



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 SSS Bldg, No. 4, Jarghao Industrial Park, No. 430, Jihua Road, Bartian, Longgang District, Shenzhen, China 518129
 t (86-755) 25328888
 f (86-755) 83106190
 www.sgsgroup.com

 中国・深圳・龙岗区坂田吉华路430号江瀬工业园4栋SGS大楼
 邮编: 518129
 t (86-755) 25328888
 f (86-755) 83106190
 e sgs.china@sgs.c