



Test Report

No.T51910210059JP

Date: FEB 27, 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:

SPIN CAST ZINC ALLOY

Buyer : WORLD WIDE
Manufacturer : CHINA
Country of Origin : CHINA
Country of Destination : WORLD WIDE
Requested Age Grading : 3+
Sample Receiving Date : FEB 22, 2019
Testing Period : FEB 22, 2019 TO FEB 26, 2019



SGS-CSTC Testing Technology Services Co., Ltd.
Shenzhen Branch Testing Center Hardlines

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Page 2 of 5

| Test Requested | | 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) (Selected test items as specified by the applicant, please refer to test result page(s) for details) | 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



T51910210059JP

Qu Ping, Kiky
Dept. Manager



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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 (Al) (mg/kg) | 111 | 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) | 6190 | 50 | 46000 |

Specimen Description:

1. Silvery metal part



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- 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 | Ba | 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. Silvery metal part

- Note:
- ppm = parts per million
 - 1% = 10000 mg/kg = 10000 ppm = 10000 µg/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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3. Japan Toy Safety Standard: Part 3: 2016 Second edition

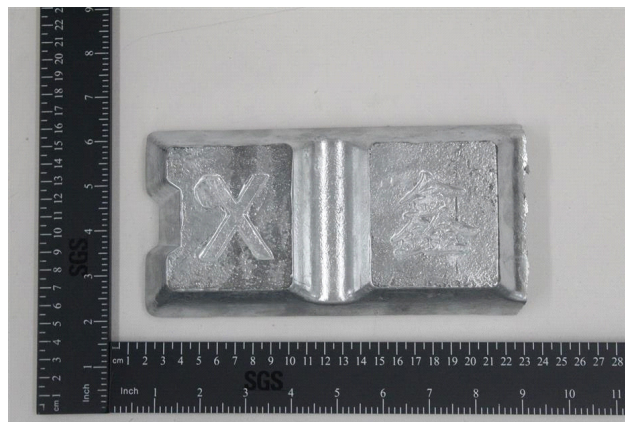
Method: As specified in Japan Toy Safety Standard: Part 3: 2016 Second edition

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 Result(s) (mg/kg) |
| 1. Silvery metal part | 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:



SGS authenticate the photo on original report only

*** End of Report ***



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