



## Test Report

No.T51710190060JP

Date: FEB 22, 2017

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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 : MADE IN CHINA  
Country of Destination : WORLD WIDE  
Requested Age Grading : 3+  
Sample Receiving Date : FEB 17, 2017  
Testing Period : FEB 17, 2017 TO FEB 22, 2017



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

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| Test Requested |  | Conclusion |
|----------------|--|------------|
| 1.             | EN 71-3:2013 + A1:2014 – Safety of toys – Part 3 – Migration of certain elements (All conclusive testing)  | PASS       |
| 2.             | ASTM F963-16 - Standard Consumer Safety Specification on Toy Safety – Heavy Elements content<br><br>(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 F963-16 - Standard Consumer Safety Specification on Toy Safety, Clause 4.3.5.2                                 | PASS       |
| 3.             | <b>Japan Toy Safety Standard: Part 3: 2016 First edition 2016.4.1</b><br>(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



Feng Shaohong, Jessica  
 Lab Manager



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**Results:**
**1. EN 71-3:2013 + A1:2014 – Safety of toys – Part 3 – Migration of Certain Elements**
Category III: Scrapped-off toy material

Method: With reference to EN71-3:2013 + A1:2014. 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 |
|---|-----------|------|-------------------|
| <b>Specimen No.</b>                       | <b>1</b>  | --   | --                |
| <b>Mass of trace amount</b> (mg)          | --        | --   | --                |
| Soluble Aluminium (Al) (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   | 160               |
| 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        | 3.3  | 180000            |
| Soluble Organic Tin -- (mg/kg)            | ND        | --   | 12                |
| Soluble Zinc (Zn) (mg/kg)                 | 1050      | 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 F963-16, Clause 4.3.5.2 – Heavy Elements in Substrate Materials**

Method: With reference to ASTM F963-16 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 First edition 2016.4.1**

Method: As specified in Japan Toy Safety Standard: Part 3: 2016 First edition 2016.4.1

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

| Test Item(s)          | 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



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### Sample Photo:



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\*\*\* End of Report \*\*\*



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