

Test Report

Report No. SCL01G057603

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Applicant JINLISEN METAL BOX MANUFACTORY CO., LTD
Address YINGPING ROAD, QINGXI TOWN, DONGGUAN, CHINA

Report on the submitted sample(s) said to be:

| | |
|------------------------------|--------------------------------|
| Sample Name | tin box |
| Item No. | SD5, SD7 |
| Country of Origin | China |
| Exported to | U.S.A |
| Client Specified Age Grading | Not stated |
| Labeled Age Grading | Ages 4 and up |
| Age Group Applied in Testing | Over 3 years |
| Sample Received Date | Dec. 01, 2014 |
| Sample Tested Date | Dec. 01, 2014 to Dec. 10, 2014 |

Test Conducted:

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

Tested by Carey

Reviewed by Caiguo

Approved by Victor Wang

Date 2014-12-10

Victor Wang
Lab Manager

No. T166700789

Centre Testing International (Shenzhen) Co., Ltd.

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



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Executive Summary:

TEST REQUEST

European Standard on Safety of Toys

- EN 71-1:2011+ A3:2014 Mechanical and Physical Properties
- EN 71-2:2011+A1:2014 Flammability of Toys
- EN 71-3:2013 Migration of certain elements

CONCLUSION

PASS

PASS

PASS

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

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▼ **Mechanical and physical properties**

As specified in European Standard on Safety of Toys EN 71 part 1:2011+ A3:2014.

| <u>Clause</u> | <u>Description</u> | <u>Assessment</u> |
|---------------|---|-------------------|
| 4 | General requirements | |
| 4.1 | Material cleanliness..... | Pass |
| 4.7 | Edges | Pass |
| 4.8 | Points and metallic wires | Pass |
| 4.10 | Parts moving against each other: | |
| | 4.10.3 Hinges | N/A |
| | (Not applicable to products with a hinged part that has a mass less than 250g.) | |
| 7 | Warnings and instructions for use | |
| | --CE marking requirement | Pass |
| | --Manufacturer and importer's name or registered name/trade mark and address | See Remark 1 |
| | Remark 1: The manufacturer's name registered trade name or registered trade mark and the address at which the manufacture can be contacted must be indicated on the toy or, where that is not possible, on its packaging or in a document accompanying the toy. This requirement applies also to the name and address etc. of any importer. | |
| | --Product Identification: type, batch, serial or model number or other element | Pass |
| 7.1 | General | N/A |
| 7.2 | Toys not intended for children under 36 months | N/A |
| | (Remark 2: No small part was found before and after test.) | |

N/A = Not Applicable

Note:

- Only applicable clause(s) was/ were shown.

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▼ **Flammability of Toys**

As specified in European Standard on Safety of Toys EN 71 part 2:2011 +A1:2014.

| <u>Clause</u> | <u>Description</u> | <u>Assessment</u> |
|---------------|---|-------------------|
| 4 | Requirements | |
| 4.1 | General | Pass |
| | (The following materials shall not be used in the manufacture of toys except as provided in EN 71-2:2011+A1:2014 : Celluloid, materials with the same behaviour in fire as celluloid, materials with a piled surface which produce surface flash, flammable gases, extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels.) | |

Note:

- Only applicable clause(s) was/ were shown.

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▼ Migration of certain elements

As specified in European standard on safety of toys EN 71-3:2013 - Migration of certain elements, acid extraction method was used and toxic elements content were determined by ICP-OES, ICP-MS, HPLC-ICP-MS and GC-MS.

Category III: scraped-off toy material

| Tested Item | Result (mg/kg) | | | MDL (mg/kg) | Limit (mg/kg) |
|---------------------------------|----------------|-----|------|----------------|------------------|
| | (1) | (2) | (3) | | |
| Aluminium (Al) | 110 | ND | 75 | 50 | 70000 |
| Antimony (Sb) | ND | ND | ND | 5 | 560 |
| Arsenic (As) | ND | ND | ND | 5 | 47 |
| Barium (Ba) | ND | ND | ND | 50 | 18750 |
| Boron (B) | ND | ND | ND | 50 | 15000 |
| Cadmium (Cd) | ND | ND | ND | 1 | 17 |
| Chromium (Cr) ^{#1} | 7.8 | ND | 2.6 | 0.2 | -- |
| Chromium (III) ^{#2} | 7.8 | -- | 2.6 | -- | 460 |
| Chromium (VI) | ND | ND | ND | 0.001 | 0.2 |
| Cobalt (Co) | ND | ND | ND | 5 | 130 |
| Copper (Cu) | ND | ND | ND | 50 | 7700 |
| Lead (Pb) | ND | ND | ND | 5 | 160 |
| Manganese (Mn) | ND | ND | ND | 50 | 15000 |
| Mercury (Hg) | ND | ND | ND | 5 | 94 |
| Nickel (Ni) | ND | ND | ND | 5 | 930 |
| Selenium (Se) | ND | ND | ND | 5 | 460 |
| Strontium (Sr) | 55 | ND | 87 | 50 | 56000 |
| Tin (Sn) ^{#3} | 144 | ND | 3016 | 2 | 180000 |
| Organic tin (TBT) ^{#4} | ND | ND | ND | 0.05 | 12 |
| Zinc (Zn) | 135 | ND | ND | 50 | 46000 |

Tested Component(s):

- (1) Multi-color coating(surface)
- (2) Black plastic(handle)
- (3) Transparent lacquer(lining)

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Remark:

- Mg/kg = parts per million = ppm
- ND = Not Detected (less than MDL)
- Mdl = method detection limit
- Filter paper was used instead of membrane filter in lab testing.
- #1 Chromium (Cr) content can be used for screen test for hexavalent chromium and trivalent chromium analysis and to show compliance with the requirement of EN 71-3:2013.
- #2 Chromium (Cr) = Hexavalent chromium (Cr (VI)) +Trivalent chromium (Cr (III)), 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.
- #3 Tin (Sn) content can be used for screen test for organic tins analysis to show compliance with the requirement of EN 71-3:2013.
- #4 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 EN 71-3:2013 |
| 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) |

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Photo of the sample



*** End of Report ***

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