

Test Report

Number: GZHH00341309

Applicant: SHANTOU ZHENGYU SCIENCE AND TECHNOLOGY
CULTURE CO.,LTD.
2ND,FLOOR,NO.1,CROSS 10,NORTH OF
GUANGYIROAD,WEST OF YU TAN ROAD,
CHENGHAI DISTRICT,SHANTOU.

Date: Oct 23, 2019

Sample Description:

One (1) set of submitted sample said to be :

Item Name : **Plugo link /Plugo Count/Plugo Combo**

Item No. : **Shifu019、Shifu020、Shifu021**

Above sample information is submitted and/or identified by client

Labelled Age Group : **"4+"**

Applicant Specified Age : **Over 4 years**

Grading for Testing

Packaging Provided by : **Yes**

Applicant

Country of Origin : **China**



Intertek authenticates the photo on original report only

To be continued



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Tests conducted:

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

Conclusion:

| <u>Tested sample</u> | <u>Standard</u> | <u>Result</u> |
|---|--|---------------|
| Submitted sample set | EN71-1:2014+A1:2018 for mechanical and physical properties | Pass |
| | EN71-2:2011+A1:2014 Flammability test | Pass |
| Tested component(s) of submitted sample set | EN71-3:2019 on migration of certain elements | Pass |

Approved:



Parco Leung
Technical Supervisor



Approved:



Jimly Lin
Sr. Technical Support



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Tests Conducted

1 Physical and Mechanical Tests

As per European Standard on Safety of toys EN71-1:2014+A1:2018

The submitted samples were undergone the following abuse tests:

| Test | Clause | Parameter |
|------------------|---------|------------------|
| Torque test | 8.3 | 0.34 Nm |
| Tension test | 8.4.2.1 | 90N |
| Drop test | 8.5 | 850 mm x 5 times |
| Impact test | 8.7 | 1 kg |
| Compression test | 8.8 | 110 N |

| Clause | Testing Items | Assessment |
|--------|--|------------|
| 4 | General requirements | |
| 4.1 | Material | P |
| 4.2 | Assembly | NA |
| 4.3 | Flexible plastic sheeting | NA |
| 4.4 | Toy bags | NA |
| 4.5 | Glass | NA |
| 4.6 | Expanding materials | NA |
| 4.7 | Edges | P |
| 4.8 | Points and metallic wires | P |
| 4.9 | Protruding parts | NA |
| 4.10 | Parts moving against each other | NA |
| 4.11 | Mouth actuated toys and other toys intended to be put in the mouth | NA |
| 4.12 | Balloons | NA |
| 4.13 | Cords of toy kites and other flying toys | NA |
| 4.14 | Enclosures | NA |
| 4.15 | Toys intended to bear the mass of a child | NA |
| 4.16 | Heavy immobile toys | NA |
| 4.17 | Projectile toys | NA |
| 4.18 | Aquatic toys and inflatable toys | NA |
| 4.19 | Percussion caps specifically designed for use in toys and toys using percussion caps | NA |
| 4.20 | Acoustics | NA |
| 4.21 | Toys containing non-electrical heat source | NA |
| 4.22 | Small balls | NA |
| 4.23 | Magnets | P |
| 4.24 | Yo-yo balls | NA |
| 4.25 | Toys attached to food | NA |
| 4.26 | Toy disguise costumes | NA |
| 4.27 | Flying toys | NA |
| 5 | Toys intended for children under 36 months | |
| 5.1 | General requirements | NA |
| 5.2 | Soft-filled toys and soft-filled parts of a toy | NA |



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| Clause | Testing Items | Assessment |
|--------|---|------------|
| 5.3 | Plastic sheeting | NA |
| 5.4 | Cords, chains and electrical cables in toys | NA |
| 5.5 | Liquid filled toys | NA |
| 5.6 | Speed limitation of electrically-driven ride-on toys | NA |
| 5.7 | Glass and porcelain | NA |
| 5.8 | Shape and size of certain toys | NA |
| 5.9 | Toys comprising monofilament fibres | NA |
| 5.10 | Small balls | NA |
| 5.11 | Play figures | NA |
| 5.12 | Hemispheric-shaped toys | NA |
| 5.13 | Suction cups | NA |
| 5.14 | Straps intended to be worn fully or partially around the neck | NA |
| 5.15 | Sledges with cords for pulling | NA |
| 6 | Packaging | P |
| 7 | Warnings, markings and instructions for use | |
| 7.1 | General | P |
| 7.2 | Toys not intended for children under 36 months | P/# |
| 7.3 | Latex balloons | NA |
| 7.4 | Aquatic toys | NA |
| 7.5 | Functional toys | NA |
| 7.6 | Hazardous sharp functional edges and points | NA |
| 7.7 | Projectile toys | NA |
| 7.8 | Imitation protective masks and helmets | NA |
| 7.9 | Toy kites | NA |
| 7.10 | Roller skates, inlineskates and skateboards and certain other ride-on toys | NA |
| 7.11 | Toys intended to be attached to strung across a cradle, cot, or perambulator | NA |
| 7.12 | Liquid-filled teethingers | NA |
| 7.13 | Percussion caps specifically designed for use in toys | NA |
| 7.14 | Acoustics | NA |
| 7.15 | Toy bicycles | NA |
| 7.16 | Toys intended to bear the mass of a child | NA |
| 7.17 | Toys comprising monofilament fibres | NA |
| 7.18 | Toy scooters | NA |
| 7.19 | Rocking horses and similar toys | NA |
| 7.20 | Magnetic/electrical experimental sets | NA |
| 7.21 | Toys with electrical cables exceeding 300 mm in length | NA |
| 7.22 | Toys with cords or chains intended for children of 18 months and over but under 36 months | NA |
| 7.23 | Toys intended to be attached to a cradle, cot or perambulator | NA |
| 7.24 | Sledges with cords for pulling | NA |
| 7.25 | Flying toys | NA |
| 7.26 | Improvised projectiles | NA |

Remark: P = Pass NA = Not Applicable



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= Age warning statement, graphical symbol and the indication of hazard was found on the packaging.

Remark: Additional information according to the Toy Safety Directives 2009/48/EC requirement. These information also appears as a note within the EN71 but are not standard requirements:

1. Marking The manufacturer's and importer's name, registered trade name or registered trade mark, the address and the CE-marking shall be indicated on the toy or, where that is not possible, on its packaging or in a document accompany the toy. In addition, manufacturers shall ensure that their toys bear a type, batch, serial or model number or other element allowing their identification, or where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy.

- Manufacturer's name was missed.
- Manufacturer's address was missed.
- Importer's name was missed.
- Importer's address was missed.
- Product identification code was missed.
- CE marking was on the packaging.

Date sample received : Oct 09, 2019 & Oct 17, 2019
Testing period : Oct 09, 2019 to Oct 22, 2019

2 Flammability Test

As per European Standard on Safety of Toys EN71-2:2011+A1:2014

| Clause | Testing Items | Assessment |
|--------|---|------------|
| 4.1 | General | P |
| 4.2 | Toys to be worn on the head | NA |
| 4.3 | Toy disguise costumes and toys intended to be worn by a child in play | NA |
| 4.4 | Toys intended to be entered by a child | NA |
| 4.5 | Soft filled toys | NA |

Remark: P = Pass NA = Not Applicable

Date sample received : Oct 09, 2019
Testing period : Oct 09, 2019 to Oct 22, 2019



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Tests Conducted

3 19 Toxic Element Migration Test

(A) Test Result

As per EN71-3:2019 and followed by Inductively Coupled Plasma Atomic Emission Spectrometry, Ion Chromatography with UV-VIS.

Category (III): Scraped-off toy material

| Element | Result (mg/kg) | Reporting Limit (mg/kg) | Limit (mg/kg) |
|----------------------------|------------------|-------------------------|--------------------|
| | Tested Component | | |
| | (8) | | |
| Aluminium (Al) | ND | 300 | 70000 |
| Antimony (Sb) | ND | 10 | 560 |
| Arsenic (As) | ND | 10 | 47 |
| Barium (Ba) | 87 | 10 | 18750 |
| Boron (B) | ND | 50 | 15000 |
| Cadmium (Cd) | ND | 5 | 17 |
| Chromium (III) (Cr III) ** | ND | 10 | 460 |
| Chromium (VI) (Cr VI) ** | ND [#] | 0.025 | 0.053 [◎] |
| Cobalt (Co) | ND | 10 | 130 |
| Copper (Cu) | ND | 10 | 7700 |
| Lead (Pb) | ND | 10 | 23 |
| Manganese (Mn) | ND | 10 | 15000 |
| Mercury (Hg) | ND | 10 | 94 |
| Nickel (Ni) | ND | 10 | 930 |
| Selenium (Se) | ND | 10 | 460 |
| Strontium (Sr) | ND | 100 | 56000 |
| Tin (Sn) | ND | 2.5 | 180000 |
| Organic tin ** | ND | 2.0 | 12 |
| Zinc (Zn) | ND | 100 | 46000 |



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| Element | Result (mg/kg) | Reporting Limit (mg/kg) | Limit (mg/kg) |
|----------------------------|--------------------------|-------------------------------|--------------------|
| | Tested Component | | |
| | (1), (5), (6), (9), (11) | | |
| Aluminium (Al) | ND | 300 | 70000 |
| Antimony (Sb) | ND | 10 | 560 |
| Arsenic (As) | ND | 10 | 47 |
| Barium (Ba) | ND | 10 | 18750 |
| Boron (B) | ND | 50 | 15000 |
| Cadmium (Cd) | ND | 5 | 17 |
| Chromium (III) (Cr III) ** | ND | 10 | 460 |
| Chromium (VI) (Cr VI) ** | ND [#] | 0.025 | 0.053 [◎] |
| Cobalt (Co) | ND | 10 | 130 |
| Copper (Cu) | ND | 10 | 7700 |
| Lead (Pb) | ND | 10 | 23 |
| Manganese (Mn) | ND | 10 | 15000 |
| Mercury (Hg) | ND | 10 | 94 |
| Nickel (Ni) | ND | 10 | 930 |
| Selenium (Se) | ND | 10 | 460 |
| Strontium (Sr) | ND | 100 | 56000 |
| Tin (Sn) | ND | 2.5 | 180000 |
| Organic tin ** | ND | 2.0 | 12 |
| Zinc (Zn) | ND | 100 | 46000 |

| Element | Result (mg/kg) | Reporting Limit (mg/kg) | Limit (mg/kg) |
|----------------------------|--------------------------|-------------------------------|------------------|
| | Tested Component | | |
| | (2), (3), (4), (7), (10) | | |
| Aluminium (Al) | ND | 300 | 70000 |
| Antimony (Sb) | ND | 10 | 560 |
| Arsenic (As) | ND | 10 | 47 |
| Barium (Ba) | ND | 10 | 18750 |
| Boron (B) | ND | 50 | 15000 |
| Cadmium (Cd) | ND | 5 | 17 |
| Chromium (III) (Cr III) ** | ND | 10 | 460 |
| Chromium (VI) (Cr VI) ** | ND | 0.025 | 0.053◎ |
| Cobalt (Co) | ND | 10 | 130 |
| Copper (Cu) | ND | 10 | 7700 |
| Lead (Pb) | ND | 10 | 23 |
| Manganese (Mn) | ND | 10 | 15000 |
| Mercury (Hg) | ND | 10 | 94 |
| Nickel (Ni) | ND | 10 | 930 |
| Selenium (Se) | ND | 10 | 460 |
| Strontium (Sr) | ND | 100 | 56000 |
| Tin (Sn) | ND | 2.5 | 180000 |
| Organic tin ** | ND | 2.0 | 12 |
| Zinc (Zn) | ND | 100 | 46000 |



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Remark : mg/kg = milligram per kilogram
++ = Unless the test results were marked with "#" or "Δ", Chromium (III) & Chromium (VI) and Organic tin contents were not directly determined and were derived from migration results of total chromium and tin respectively.
- Organic tin test result was expressed as tributyl tin.
ND = Not detected (less than reporting limit)
◎ = The new chromium (VI) migration limit [(0.053mg/kg for Category (III))] were quoted from directive (EU) 2018/725 amending 2009/48/EC effective from 18 November 2019.
= Confirmation of Chromium (VI) test was performed on the tested component. And the reported value of migration of Chromium (III) = migration value of total Chromium – migration value of Chromium(VI).

Tested Component(s):

- (1) Purple coating on plastic (pattern of chess, block, base) (sample weight: 22.1mg).
- (2) Blue plastic (chess).
- (3) Orange plastic (chess).
- (4) Dark yellow plastic (base).
- (5) Yellow plastic (block).
- (6) Purple plastic (joint of clamp of game board).
- (7) Cyan plastic (clip of game board).
- (8) Cyan/dark synthetic leather (cover of game board) (sample weight: 54.1mg).
- (9) Blue fake suede fabric (base of game board).
- (10) Black soft plastic (foot pad of game board).
- (11) Black foam (washer of clip of game board) (sample weight: 20.2mg).



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(B) Categories of various toy materials

Category I: Dry, brittle, powder like or pliable

Solid toy material from which powder-like material is released during playing and semi-solid materials that may also leave residues on the hands during play. The material can be ingested. Contamination of the hands with the material may contribute to the oral exposure of the material. (e.g. the cores of colouring pencils, chalk, crayons, modelling clays and plaster).

Category II: Liquid or sticky

Fluid or viscous toy material, which can be ingested or to which dermal exposure may occur during playing. (e.g. liquid paints, finger paints, liquid ink in pens, glue sticks, slimes, bubble solution).

Category III: Scraped-off

Solid toy material with or without a coating, which can be ingested as a result of biting, tooth scraping, sucking or licking. (e.g. coatings, lacquers, plastics, paper, textiles, glass, ceramic, metallic, wooden, bone, leather and other materials).

Date sample received: Oct 09, 2019

Testing period: Oct 09, 2019 to Oct 15, 2019

End of report

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