

Test Report

Number: SHAH01066276

Applicant: NINGBO MIDEER TOYS CO LTD
RM501,BUILDING NO.1,YIDU CULTURE
SQUARE,HAISHU DISTRIC,NINGBO,ZHEJIANG
Attn: VERA

Date: 05 Mar, 2019

Sample Description:

Two (2) sets of submitted sample said to be :

Item Name : **Detective puzzle- In Space
Detective puzzle- In Room
Detective puzzle- In forest
Detective puzzle- In ocean.**

Item No. : **MD3007 MD3008 MD3010 MD3011.**

Quantity : 2 Sets.

Labelled Age Group : 3+.

Packaging Provided By Applicant : Yes.(Artwork)

Goods Exported To : Europe, Australia.

Country Of Origin : China.

Tests Conducted:

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

Conclusion:

Tested samples	Standard	Result
Submitted sample sets	EN71-1: 2014+ A1: 2018 for Mechanical And Physical Properties	Pass
	EN71-2: 2011+A1: 2014 Flammability Test	Pass
Tested components of submitted sample	EN 71-3:2013+A3:2018 on migration of certain elements & EU 2018/725 amending 2009/48/EC (effective from Nov 18,2019) for chromium (VI) migration	Pass
	Mattel QSOP No.0006-3618 Rev. F on Formaldehyde content	Pass

To be continued

Authorized By:



Young Zhu
Vice President



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Tests Conducted

1 Mechanical and Physical Test

As Per European Standard on Safety of Toys EN71-1: 2014+ A1: 2018.

Applicant's Specified Age Group for Testing: For ages 3 years and up

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	P
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 a non-electrical heat source	NA
4.22	Small balls	NA
4.23	Magnets	NA
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
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



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Clause	Testing Items	Assessment
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, inline skates and skateboards and certain other ride-on toys	NA
7.11	Toys intended to be 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

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Remark: P = Pass

NA = Not Applicable

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

Date Sample Received: 25 Feb, 2019 & 04 Mar, 2019

Testing Period: 25 Feb, 2019 To 04 Mar, 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	
4.2.2	Beards, moustaches, wigs, etc., made from hair, pile or material with similar features, which protrude 50 mm or more from the surface of the toy	NA
4.2.3	Beards, moustaches, wigs, etc., made from hair, pile or material with similar features, which protrude less than 50 mm from the surface of the toy	NA
4.2.4	Full or partial moulded head masks	NA
4.2.5	Flowing elements of 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: 25 Feb, 2019

Testing Period: 25 Feb, 2019 To 27 Feb, 2019

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Tests Conducted

3 19 Toxic Elements Migration Test

(A) Test Result

As per EN 71-3:2013+A3:2018 and followed by Inductively Coupled Plasma Atomic Emission Spectrometry, Inductively Coupled Argon Mass Spectrometry, Ion Chromatography- Inductively Coupled Plasma-Mass Spectrometry, and Gas Chromatographic - Mass Spectrometry

Category (III): Scraped-off toy material

Element	Result (mg/kg)				Limit (mg/kg)
	(1)#	(2)#	(3)#	(4)#	
Aluminium (Al)	< 300	< 300	< 300	< 300	70000
Antimony (Sb)	< 10	< 10	< 10	< 10	560
Arsenic (As)	< 10	< 10	< 10	< 10	47
Barium (Ba)	< 10	< 10	< 10	< 10	18750
Boron (B)	< 50	< 50	< 50	< 50	15000
Cadmium (Cd)	< 5	< 5	< 5	< 5	17
Chromium (III) (Cr III) **	< 10	< 10	< 10	< 10	460
Chromium (VI) (Cr VI) **	< 0.025	< 0.025	< 0.025	< 0.025	0.2/0.053◎
Cobalt (Co)	< 10	< 10	< 10	< 10	130
Copper (Cu)	< 10	< 10	< 10	< 10	7700
Lead (Pb)	< 10	< 10	< 10	< 10	23
Manganese (Mn)	< 10	< 10	< 10	< 10	15000
Mercury (Hg)	< 10	< 10	< 10	< 10	94
Nickel (Ni)	< 10	< 10	< 10	< 10	930
Selenium (Se)	< 10	< 10	< 10	< 10	460
Strontium (Sr)	< 100	< 100	< 100	< 100	56000
Tin (Sn)	< 10	< 10	< 10	< 10	180000
Organic tin **	< 3.0	< 3.0	< 3.0	< 3.0	12
Zinc (Zn)	< 100	< 100	467	1558	46000

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Tests Conducted

Element	Result (mg/kg)				Limit (mg/kg)
	(5)#	(6)#	(8)#	(9)#	
Aluminium (Al)	< 300	< 300	< 300	< 300	70000
Antimony (Sb)	< 10	< 10	< 10	< 10	560
Arsenic (As)	< 10	< 10	< 10	< 10	47
Barium (Ba)	< 10	< 10	449	93	18750
Boron (B)	< 50	< 50	< 50	< 50	15000
Cadmium (Cd)	< 5	< 5	< 5	< 5	17
Chromium (III) (Cr III) **	< 10	< 10	< 10	< 10	460
Chromium (VI) (Cr VI) **	< 0.025	< 0.025	< 0.025	< 0.025	0.2/0.053©
Cobalt (Co)	< 10	< 10	< 10	< 10	130
Copper (Cu)	< 10	< 10	< 10	< 10	7700
Lead (Pb)	< 10	< 10	< 10	< 10	23
Manganese (Mn)	< 10	< 10	12	< 10	15000
Mercury (Hg)	< 10	< 10	< 10	< 10	94
Nickel (Ni)	< 10	< 10	< 10	< 10	930
Selenium (Se)	< 10	< 10	< 10	< 10	460
Strontium (Sr)	< 100	< 100	< 100	< 100	56000
Tin (Sn)	< 10	< 10	< 10	< 10	180000
Organic tin **	< 3.0	< 3.0	< 3.0	< 3.0	12
Zinc (Zn)	< 100	< 100	< 100	< 100	46000

Element	Result (mg/kg)				Limit (mg/kg)
	(10)#	(11)#	(12)#	(13)#	
Aluminium (Al)	< 300	< 300	< 300	< 300	70000
Antimony (Sb)	< 10	< 10	< 10	< 10	560
Arsenic (As)	< 10	< 10	< 10	< 10	47
Barium (Ba)	474	< 10	12	< 10	18750
Boron (B)	< 50	< 50	< 50	< 50	15000
Cadmium (Cd)	< 5	< 5	< 5	< 5	17
Chromium (III) (Cr III) **	< 10	< 10	< 10	< 10	460
Chromium (VI) (Cr VI) **	< 0.025	< 0.025	< 0.025	< 0.025	0.2/0.053©
Cobalt (Co)	< 10	< 10	< 10	< 10	130
Copper (Cu)	< 10	< 10	< 10	< 10	7700
Lead (Pb)	< 10	< 10	< 10	< 10	23
Manganese (Mn)	< 10	151	90	< 10	15000
Mercury (Hg)	< 10	< 10	< 10	< 10	94
Nickel (Ni)	< 10	< 10	< 10	< 10	930
Selenium (Se)	< 10	< 10	< 10	< 10	460
Strontium (Sr)	< 100	< 100	< 100	< 100	56000
Tin (Sn)	< 10	< 10	< 10	< 10	180000
Organic tin **	< 3.0	< 3.0	< 3.0	< 3.0	12
Zinc (Zn)	< 100	< 100	< 100	< 100	46000

To be continued



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Tests Conducted

Element	Result (mg/kg)	Limit (mg/kg)
	(14)#	
Aluminium (Al)	< 300	70000
Antimony (Sb)	< 10	560
Arsenic (As)	< 10	47
Barium (Ba)	287	18750
Boron (B)	< 50	15000
Cadmium (Cd)	< 5	17
Chromium (III) (Cr III) **	< 10	460
Chromium (VI) (Cr VI) **	< 0.025	0.2/0.053©
Cobalt (Co)	< 10	130
Copper (Cu)	< 10	7700
Lead (Pb)	< 10	23
Manganese (Mn)	< 10	15000
Mercury (Hg)	< 10	94
Nickel (Ni)	< 10	930
Selenium (Se)	< 10	460
Strontium (Sr)	< 100	56000
Tin (Sn)	< 10	180000
Organic tin **	< 3.0	12
Zinc (Zn)	< 100	46000

Remark: mg/kg = Milligram per kilogram

spl. wt. = Sample weight

++ = 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.
- Unless specified, test results of Chromium (III), Chromium (VI) and Organic tin were derived from migration results of total chromium and tin respectively.
- Migration of Chromium (III) = Migration of total Chromium – Migration of Chromium(VI), when performed confirmation test for Chromium (VI)

© = 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): See component list in the last section of this report.

Remark: As requested by the applicant, toxic elements content test were conducted only components listed in this report. Other components were not tested.

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Tests Conducted

(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: 25 Feb, 2019

Testing Period: 25 Feb, 2019 To 01 Mar, 2019

4 Free Formaldehyde Content (Paper)

As per Mattel Quality and Safety Operating Procedure No.0006-3618 Rev.F & EN 1541 and EN 645.

<u>Tested Component /Sample</u>	<u>Result (mg/kg)</u>	<u>Client's Requirement (mg/kg)</u>
(1)	ND	30
(5)	ND	30
(7)	7	30

Remark: ND = Not Detected

Detection Limit = 5.0mg/kg

Date Sample Received: 25 Feb, 2019

Testing Period: 25 Feb, 2019 To 28 Feb, 2019

To be continued



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Tests Conducted



To be continued



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Tests Conducted



To be continued



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Tests Conducted



To be continued



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To be continued



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Tests Conducted



To be continued



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Tests Conducted

Components:

- (1) White paper with plastic film and underlying multi- color printing. (glasses)
- (2) Transparent red plastic sheet. (glasses)
- (3) White woven fabric. (for glasses)
- (4) White elastic string. (for glasses)
- (5) Brown paperboard with plastic film and underlying multi- color printing. (puzzle)
- (6) White paper with multi- color coating. (back side of puzzle)
- (7) White paper excluding coating. (back side of puzzle)
- (8) White coating on wood. (magnifier for space) spl. wt. = 0.0610g
- (9) Red coating on wood. (magnifier for space) spl. wt. = 0.0874g
- (10) Blue coating on wood. (magnifier for space) spl. wt. = 0.0360
- (11) Dark brown MDF board. (magnifier for two types)
- (12) Nature color wood. (magnifier for two types)
- (13) Transparent plastic. (magnifier for two types)
- (14) Light green coating on wood. (magnifier for room)

End of report

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