

Test Report

Number: GZHH00339668

Applicant: MAY CHEONG TOY PRODUCTS FTY., LTD
UNIT 901-2, 9/F., EAST OCEAN CENTRE,
98 GRANVILLE ROAD, TSIMSHATSUI EAST,
KOWLOON, HONG KONG

Date: Oct 23, 2019

Attn: ICY HUANG

Sample Description:

Five (5) styles of submitted sample said to be :

No.	Item	Description	Color
1	31133	1:24 2015 Corvette Z06	Yellow
2	31231	2003 HUMMER H2 SUV	Yellow
3	31246	1:24 BMW M4 GTS	Orange
4	31354	Design Outlaws ~ 1:24 1929 Ford Model A	Yellow
5	31513	1:24 Audi R8 V10 Plus	Metallic Grey

Labelled Age Group : "3+/8+"
Applicant Specified Age : Over 3 years
Grading for Testing
Packaging Provided by Applicant : Yes
Country of Origin : China

Tests conducted:

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

To be continued



Test Report

Number: GZHH00339668

Conclusion:

<u>Tested sample</u> Submitted sample(s)	<u>Standard</u>	<u>Result</u>
	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(s)	EN71-3:2013+A3:2018 on migration of certain elements	Pass
	EN71-3:2013+A3:2018 on migration of certain elements & EU 2018/725 amending 2009/48/EC (effective from Nov 18,2019) for chromium (VI) migration	Pass
	EN71-3:2019 on migration of certain elements	Pass
	Cadmium content requirement in REACH regulation Annex XVII Item 23 (EC) No 1907/2006 and amendment No. 552/2009, 494/2011, 835/2012 and 2016/217	Pass
	Phthalates content requirement in Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & (EU) 2018/2005. [(EU) 2018/2005 is applicable to products including toys and childcare articles placed on the market after 7 July 2020]	Pass
	<u>Test Item</u> Phthalates Content	See Test Conducted 7#
	<u>Standard</u> Polycyclic Aromatic Hydrocarbons (PAHs) Content Requirement In Annex XVII Item 50 of the REACH Regulation (EC) NO. 1907/2006 & Amendment No. 552/2009 and 1272/2013 with effect from 27 December 2015	Pass

: This test in the report is not included in the CNAS accreditation schedule for our laboratory.

Approved:




Parco Leung
Technical Supervisor

Approved:



Jimly Lin
Sr. Technical Support



Test Report

Number: GZHH00339668

Tests Conducted

1 Physical and Mechanical Tests

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

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	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
5.8	Shape and size of certain toys	NA



Test Report

Number: GZHH00339668

Tests Conducted

Clause	Testing Items	Assessment
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	NA
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

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



Test Report

Number: GZHH00339668

Tests Conducted

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 on the packaging and toy.
- Manufacturer's address was on the packaging.
- Importer's name was on the packaging and toy.
- Importer's address was on the packaging.
- Product identification code was on the packaging.
- the CE-marking was on packaging and was in a correct format.

Date sample received : Sep 17, 2019

Testing period : Sep 17, 2019 to Sep 20, 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 : Sep 17, 2019

Testing period : Sep 17, 2019 to Sep 20, 2019



Test Report

Number: GZHH00339668

Tests Conducted

3 19 Toxic Element Migration Test

(A) Test Result

As per EN71-3:2013+A3:2018 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						
	(3)	(6)	(9)	(12)	(13)		
Aluminium (Al)	ND	4307	975	506	340	300	70000
Antimony (Sb)	ND	ND	ND	ND	ND	10	560
Arsenic (As)	ND	ND	ND	ND	ND	10	47
Barium (Ba)	ND	ND	ND	ND	ND	10	18750
Boron (B)	ND	ND	ND	ND	ND	50	15000
Cadmium (Cd)	ND	ND	ND	ND	ND	5	17
Chromium (III) (Cr III) **	ND	ND	ND	ND	ND	10	460
Chromium (VI) (Cr VI) **	ND#	ND#	ND#	ND#	ND#	0.025	0.2/0.053◎
Cobalt (Co)	ND	ND	ND	ND	ND	10	130
Copper (Cu)	18	ND	ND	ND	ND	10	7700
Lead (Pb)	ND	ND	ND	ND	ND	10	23
Manganese (Mn)	ND	ND	ND	ND	ND	10	15000
Mercury (Hg)	ND	ND	ND	ND	ND	10	94
Nickel (Ni)	ND	ND	ND	ND	ND	10	930
Selenium (Se)	ND	ND	ND	ND	ND	10	460
Strontium (Sr)	ND	ND	ND	ND	ND	100	56000
Tin (Sn)	ND	ND	ND	ND	ND	2.5	180000
Organic tin **	ND	ND	ND	ND	ND	2.0	12
Zinc (Zn)	ND	7257	6458	795	146	100	46000



Test Report

Number: GZHH00339668

Tests Conducted

Element	Result (mg/kg)				Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component					
	(14)	(18)	(20)	(22)		
Aluminium (Al)	2113	ND	1929	7545	300	70000
Antimony (Sb)	ND	ND	ND	ND	10	560
Arsenic (As)	ND	ND	ND	ND	10	47
Barium (Ba)	ND	ND	ND	ND	10	18750
Boron (B)	ND	ND	ND	ND	50	15000
Cadmium (Cd)	ND	ND	ND	ND	5	17
Chromium (III) (Cr III) **	ND	ND	ND	ND	10	460
Chromium (VI) (Cr VI) **	ND#	ND#	ND#	ND#	0.025	0.2/0.053◎
Cobalt (Co)	ND	ND	ND	ND	10	130
Copper (Cu)	ND	ND	ND	ND	10	7700
Lead (Pb)	ND	ND	ND	ND	10	23
Manganese (Mn)	ND	ND	ND	ND	10	15000
Mercury (Hg)	ND	ND	ND	ND	10	94
Nickel (Ni)	ND	ND	ND	ND	10	930
Selenium (Se)	ND	ND	ND	ND	10	460
Strontium (Sr)	ND	ND	ND	ND	100	56000
Tin (Sn)	ND	ND	ND	ND	2.5	180000
Organic tin **	ND	ND	ND	ND	2.0	12
Zinc (Zn)	7736	ND	7475	6909	100	46000

Element	Result (mg/kg)				Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component					
	(23)to(27)	(28)to(34)	(35)	(36)		
Aluminium (Al)	ND	ND	ND	ND	300	70000
Antimony (Sb)	ND	ND	ND	ND	10	560
Arsenic (As)	ND	ND	ND	ND	10	47
Barium (Ba)	ND	ND	ND	ND	10	18750
Boron (B)	ND	ND	ND	ND	50	15000
Cadmium (Cd)	ND	ND	ND	ND	5	17
Chromium (III) (Cr III) **	ND	ND	ND	ND	10	460
Chromium (VI) (Cr VI) **	ND	ND#	ND#	ND#	0.025	0.2/0.053◎
Cobalt (Co)	ND	ND	ND	ND	10	130
Copper (Cu)	ND	ND	ND	ND	10	7700
Lead (Pb)	ND	ND	ND	ND	10	23
Manganese (Mn)	ND	ND	ND	ND	10	15000
Mercury (Hg)	ND	ND	ND	ND	10	94
Nickel (Ni)	ND	ND	ND	ND	10	930
Selenium (Se)	ND	ND	ND	ND	10	460
Strontium (Sr)	ND	ND	ND	ND	100	56000
Tin (Sn)	ND	ND	ND	ND	2.5	180000
Organic tin **	ND	ND	ND	ND	2.0	12
Zinc (Zn)	ND	ND	309	ND	100	46000



Test Report

Number: GZHH00339668

Tests Conducted

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):

Sequence No.	Test Component No.	Test Component Description(s)
SN1	(1) @	Orange coating on plastic (outside mirror, fender of #31246).
SN2	(2) @	Silver color coating on plastic (rim, exhaust of #31246, #31513, #31231, #31133).
SN3	(3)	Dark taupe coating on plastic (center console of #31246) (sample weight: 41.7mg).
SN4	(4) @	Red coating on plastic (rear car light of #31246, #31513).
SN5	(5) @	Black coating on plastic (window of all styles).
SN6	(6)	Coatings (orange, black, white, silver color, blue) on metal (body of #31246).
SN7	(8) @	Bright silver color coating on plastic (exhaust of #31133, rim, engine of #31354, fender of #31231).
SN8	(9)	Coatings (yellow, black, silver color, red, orange, bright silver color) on metal (body of #31133).
SN9	(11) @	Metallic light blue coating on plastic (base of engine of #31354).
SN10	(12)	Yellow coating on plastic (roof of #31354).
SN11	(13)	Coatings (yellow, blue, silver color) on plastic (front engine of #31354).
SN12	(14)	Coatings (yellow, white, black, silver color, red) on metal (body of #31354).
SN13	(16) @	Dark grey coating on plastic (fender of #31231).
SN14	(17) @	Coatings (red, orange) on plastic (rear car light of #31231).
SN15	(18)	Coatings (dark yellow, black, red) on plastic (roof of #31231).
SN16	(19) @	Coatings (white, black, red) on plastic (door, center console of #31231).
SN17	(20)	Coatings (yellow, orange, silver color, black, red) on metal (body of #31231).
SN18	(22)	Coatings (metallic silver-grey, silver color, red) on metal (body of #31513).
SN19	(23)	Black 60 °PVC plastic (tire of #31231, #31354, #31513).
SN20	(24)	Black 70 °PVC plastic (tire of #31133, #31246).



Test Report

Number: GZHH00339668

Tests Conducted

Tested Component(s):

Sequence No.	Test Component No.	Test Component Description(s)
SN21	(25)	Black plastic (base of all styles).
SN22	(26)	Dark taupe plastic (door, center console of #31231).
SN23	(27)	Transparent plastic (window of all styles).
SN24	(28)	Black plastic excluding coatings (outside mirror, fender of #31246, exhaust of #31133, rim, engine of #31354, fender of #31231, base of engine of #31354).
SN25	(29)	Black soft plastic (outside mirror, windshield wiper of #31231).
SN26	(30)	Yellow plastic excluding coating (roof of #31231, #31354).
SN27	(31)	Orange plastic (rim, frame of #31246).
SN28	(32)	Semi-transparent plastic excluding coatings (rear car light of #31246, #31231, #31513).
SN29	(33)	Semi-transparent plastic (car light of all styles).
SN30	(34)	Off-white plastic excluding coatings (rim of #31513, 31231).
SN31	(35)	Matte black plastic (roof, tail of #31246).
SN32	(36)	Transparent adhesive plastic with inaccessible coatings (mirror of all styles) (sample weight: 14.6mg).
SN33	(37) @	White adhesive paper with transparent plastic film and inaccessible coatings (sticker of #31231).
SN34	(38) @	White adhesive paper with printings (black, yellow) (sticker of #31354).

@: Since the sample weight of the component was less than 10 mg, soluble heavy metal analysis was not applicable.

(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).



Test Report

Number: GZHH00339668

Tests Conducted

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: Sep 17, 2019
Testing period: Sep 17, 2019 to Sep 27, 2019

4 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						
	(3)	(6)	(9)	(12)	(13)		
Aluminium (Al)	ND	4307	975	506	340	300	70000
Antimony (Sb)	ND	ND	ND	ND	ND	10	560
Arsenic (As)	ND	ND	ND	ND	ND	10	47
Barium (Ba)	ND	ND	ND	ND	ND	10	18750
Boron (B)	ND	ND	ND	ND	ND	50	15000
Cadmium (Cd)	ND	ND	ND	ND	ND	5	17
Chromium (III) (Cr III) **	ND	ND	ND	ND	ND	10	460
Chromium (VI) (Cr VI) **	ND#	ND#	ND#	ND#	ND#	0.025	0.053©
Cobalt (Co)	ND	ND	ND	ND	ND	10	130
Copper (Cu)	18	ND	ND	ND	ND	10	7700
Lead (Pb)	ND	ND	ND	ND	ND	10	23
Manganese (Mn)	ND	ND	ND	ND	ND	10	15000
Mercury (Hg)	ND	ND	ND	ND	ND	10	94
Nickel (Ni)	ND	ND	ND	ND	ND	10	930
Selenium (Se)	ND	ND	ND	ND	ND	10	460
Strontium (Sr)	ND	ND	ND	ND	ND	100	56000
Tin (Sn)	ND	ND	ND	ND	ND	2.5	180000
Organic tin **	ND	ND	ND	ND	ND	2.0	12
Zinc (Zn)	ND	7257	6458	795	146	100	46000



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	Tested Component					
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Manganese (Mn)	ND	ND	ND	ND	10	15000
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Nickel (Ni)	ND	ND	ND	ND	10	930
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Aluminium (Al)	ND	ND	ND	ND	300	70000
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Barium (Ba)	ND	ND	ND	ND	10	18750
Boron (B)	ND	ND	ND	ND	50	15000
Cadmium (Cd)	ND	ND	ND	ND	5	17
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Copper (Cu)	ND	ND	ND	ND	10	7700
Lead (Pb)	ND	ND	ND	ND	10	23
Manganese (Mn)	ND	ND	ND	ND	10	15000
Mercury (Hg)	ND	ND	ND	ND	10	94
Nickel (Ni)	ND	ND	ND	ND	10	930
Selenium (Se)	ND	ND	ND	ND	10	460
Strontium (Sr)	ND	ND	ND	ND	100	56000
Tin (Sn)	ND	ND	ND	ND	2.5	180000
Organic tin **	ND	ND	ND	ND	2.0	12
Zinc (Zn)	ND	ND	309	ND	100	46000



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 - 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):

Sequence No.	Test Component No.	Test Component Description(s)
SN1	(1) @	Orange coating on plastic (outside mirror, fender of #31246).
SN2	(2) @	Silver color coating on plastic (rim, exhaust of #31246, #31513, #31231, #31133).
SN3	(3)	Dark taupe coating on plastic (center console of #31246) (sample weight: 41.7mg).
SN4	(4) @	Red coating on plastic (rear car light of #31246, #31513).
SN5	(5) @	Black coating on plastic (window of all styles).
SN6	(6)	Coatings (orange, black, white, silver color, blue) on metal (body of #31246).
SN7	(8) @	Bright silver color coating on plastic (exhaust of #31133, rim, engine of #31354, fender of #31231).
SN8	(9)	Coatings (yellow, black, silver color, red, orange, bright silver color) on metal (body of #31133).
SN9	(11) @	Metallic light blue coating on plastic (base of engine of #31354).
SN10	(12)	Yellow coating on plastic (roof of #31354).
SN11	(13)	Coatings (yellow, blue, silver color) on plastic (front engine of #31354).
SN12	(14)	Coatings (yellow, white, black, silver color, red) on metal (body of #31354).
SN13	(16) @	Dark grey coating on plastic (fender of #31231).
SN14	(17) @	Coatings (red, orange) on plastic (rear car light of #31231).
SN15	(18)	Coatings (dark yellow, black, red) on plastic (roof of #31231).
SN16	(19) @	Coatings (white, black, red) on plastic (door, center console of #31231).
SN17	(20)	Coatings (yellow, orange, silver color, black, red) on metal (body of #31231).
SN18	(22)	Coatings (metallic silver-grey, silver color, red) on metal (body of #31513).
SN19	(23)	Black 60 °PVC plastic (tire of #31231, #31354, #31513).



Test Report

Number: GZHH00339668

Tests Conducted

Sequence No.	Test Component No.	Test Component Description(s)
SN20	(24)	Black 70 °PVC plastic (tire of #31133, #31246).
SN21	(25)	Black plastic (base of all styles).
SN22	(26)	Dark taupe plastic (door, center console of #31231).
SN23	(27)	Transparent plastic (window of all styles).
SN24	(28)	Black plastic excluding coatings (outside mirror, fender of #31246, exhaust of #31133, rim, engine of #31354, fender of #31231, base of engine of #31354).
SN25	(29)	Black soft plastic (outside mirror, windshield wiper of #31231).
SN26	(30)	Yellow plastic excluding coating (roof of #31231, #31354).
SN27	(31)	Orange plastic (rim, frame of #31246).
SN28	(32)	Semi-transparent plastic excluding coatings (rear car light of #31246, #31231, #31513).
SN29	(33)	Semi-transparent plastic (car light of all styles).
SN30	(34)	Off-white plastic excluding coatings (rim of #31513, 31231).
SN31	(35)	Matte black plastic (roof, tail of #31246).
SN32	(36)	Transparent adhesive plastic with inaccessible coatings (mirror of all styles) (sample weight: 14.6mg).
SN33	(37) @	White adhesive paper with transparent plastic film and inaccessible coatings (sticker of #31231).
SN34	(38) @	White adhesive paper with printings (black, yellow) (sticker of #31354).

@: Since the sample weight of the component was less than 10 mg, soluble heavy metal analysis was not applicable

(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: Sep 17, 2019
Testing period: Sep 17, 2019 to Sep 27, 2019



Test Report

Number: GZHH00339668

Tests Conducted

5 Cadmium (Cd) Content

With reference to test method IEC 62321-5:2013, acid digestion method was used and total Cadmium content was determined by Inductively Coupled Argon Plasma Spectrometry.

Element	Result (%)	Reporting Limit (%)
	Tested Component	
	(1/2/3), (4/5/6), (8/9), (11/12), (13), (14), (16/17/18), (19/20), (22), (23+24), (25+26+27), (28+29+30), (31+32+33), (34+35+36), (37), (38)	
Cadmium (Cd)	ND	0.0005

Limit:

Category	Limit (%)
Wet paint	0.01
Surface coating	0.1
Plastic	0.01
Metal parts of jewelry & hair accessories	0.01

ND = Not detected (less than reporting limit)

Tested Component(s):

Sequence No.	Test Component No.	Test Component Description(s)
SN1	(1)	Orange coating on plastic (outside mirror, fender of #31246).
SN2	(2)	Silver color coating on plastic (rim, exhaust of #31246, #31513, #31231, #31133).
SN3	(3)	Dark taupe coating on plastic (center console of #31246).
SN4	(4)	Red coating on plastic (rear car light of #31246, #31513).
SN5	(5)	Black coating on plastic (window of all styles).
SN6	(6)	Coatings (orange, black, white, silver color, blue) on metal (body of #31246).
SN7	(8)	Bright silver color coating on plastic (exhaust of #31133, rim, engine of #31354, fender of #31231).
SN8	(9)	Coatings (yellow, black, silver color, red, orange, bright silver color) on metal (body of #31133).
SN9	(11)	Metallic light blue coating on plastic (base of engine of #31354).
SN10	(12)	Yellow coating on plastic (roof of #31354).
SN11	(13)	Coatings (yellow, blue, silver color) on plastic (front engine of #31354).
SN12	(14)	Coatings (yellow, white, black, silver color, red) on metal (body of #31354).



Test Report

Number: GZHH00339668

Tests Conducted

Sequence No.	Test Component No.	Test Component Description(s)
SN13	(16)	Dark grey coating on plastic (fender of #31231).
SN14	(17)	Coatings (red, orange) on plastic (rear car light of #31231).
SN15	(18)	Coatings (dark yellow, black, red) on plastic (roof of #31231).
SN16	(19)	Coatings (white, black, red) on plastic (door, center console of #31231).
SN17	(20)	Coatings (yellow, orange, silver color, black, red) on metal (body of #31231).
SN18	(22)	Coatings (metallic silver-grey, silver color, red) on metal (body of #31513).
SN19	(23)	Black 60 °PVC plastic (tire of #31231, #31354, #31513).
SN20	(24)	Black 70 °PVC plastic (tire of #31133, #31246).
SN21	(25)	Black plastic (base of all styles).
SN22	(26)	Dark taupe plastic (door, center console of #31231).
SN23	(27)	Transparent plastic (window of all styles).
SN24	(28)	Black plastic excluding coatings (outside mirror, fender of #31246, exhaust of #31133, rim, engine of #31354, fender of #31231, base of engine of #31354).
SN25	(29)	Black soft plastic (outside mirror, windshield wiper of #31231).
SN26	(30)	Yellow plastic excluding coating (roof of #31231, #31354).
SN27	(31)	Orange plastic (rim, frame of #31246).
SN28	(32)	Semi-transparent plastic excluding coatings (rear car light of #31246, #31231, #31513).
SN29	(33)	Semi-transparent plastic (car light of all styles).
SN30	(34)	Off-white plastic excluding coatings (rim of #31513, 31231).
SN31	(35)	Matte black plastic (roof, tail of #31246).
SN32	(36)	Transparent adhesive plastic with inaccessible coatings (mirror of all styles).
SN33	(37)	White adhesive paper with transparent plastic film and inaccessible coatings (sticker of #31231).
SN34	(38)	White adhesive paper with printings (black, yellow) (sticker of #31354).

The Cadmium content test of the tested components (1)to(6), (8), (9), (11), (12), (16)to(20) were conducted in composite for the materials which sample size is not sufficient to carry out the test individually.

Date sample received: Sep 17, 2019
Testing period: Sep 17, 2019 to Sep 27, 2019



Test Report

Number: GZHH00339668

Tests Conducted

6 Phthalate Content

With reference to International Standard ISO 8124-6:2018, and phthalate content was determined by Gas Chromatographic-Mass Spectrometric (GC-MS).

For 7 phthalate

Test Item	CAS No.	Result (%)	Reporting Limit (%)	Limit (%)
		Tested component (7+10+15), (21+22), (23+24), (25+26+27), (28+29+30), (31+32+33), (34+35+36), (37), (38)		
Dibutyl phthalate (DBP)	84-74-2	ND	0.005	--
Di-(2-ethyl hexyl) phthalate (DEHP)	117-81-7	ND	0.005	--
Benzyl butyl phthalate (BBP)	85-68-7	ND	0.005	---
Diisobutyl phthalate (DIBP)	84-69-5	ND	0.005	--
Sum of DBP, DEHP, BBP and DIBP	--	ND	--	0.1
Di-iso-nonyl phthalate (DINP)	28553-12-0/ 68515-48-0	ND	0.005	--
Di-n-octyl phthalate(DNOP)	117-84-0	ND	0.005	--
Di-iso-decyl phthalate (DIDP)	26761-40-0/ 68515-49-1	ND	0.005	--
Sum of DINP, DNOP and DIDP	--	ND	--	0.1

The above limit was quoted according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & Amendment Commission Regulation (EU) 2018/2005 for phthalate content in articles (formerly known as Directive 2005/84/EC).

For toys and childcare articles, combination of DIBP to current limit (sum of DBP, DEHP and BBP) was quoted from Commission Regulation (EU) 2018/2005 effective from 7 July 2020.

ND = Not detected (less than reporting limit)

Tested Component(s):

Sequence No.	Test Component No.	Test Component Description(s)
SN1	(7)	Coatings (orange, black, white, silver color, blue, red, dark taupe) on metal/plastic (body, outside mirror, fender, rim, exhaust, center console, rear car light, window of #31246).
SN2	(10)	Coatings (yellow, black, silver color, red, orange) on metal/plastic (body of #31133, exhaust of #31133, rim, engine of #31354, fender of #31231).



Test Report

Number: GZHH00339668

Tests Conducted

Tested Component(s):

Sequence No.	Test Component No.	Test Component Description(s)
SN3	(15)	Coatings (yellow, white, black, blue, silver color, metallic light blue) on metal/plastic (body, base of engine, roof, front engine of #31354).
SN4	(21)	Coatings (yellow, orange, silver color, black, red, dark yellow, dark grey) on metal/plastic (body, fender, rear car light, roof, door, center console of #31231).
SN5	(22)	Coatings (metallic silver-grey, silver color, red) on metal (body of #31513).
SN6	(23)	Black 60 °PVC plastic (tire of #31231, #31354, #31513).
SN7	(24)	Black 70 °PVC plastic (tire of #31133, #31246).
SN8	(25)	Black plastic (base of all styles).
SN9	(26)	Dark taupe plastic (door, center console of #31231).
SN10	(27)	Transparent plastic (window of all styles).
SN11	(28)	Black plastic excluding coatings (outside mirror, fender of #31246, exhaust of #31133, rim, engine of #31354, fender of #31231, base of engine of #31354).
SN12	(29)	Black soft plastic (outside mirror, windshield wiper of #31231).
SN13	(30)	Yellow plastic excluding coating (roof of #31231, #31354).
SN14	(31)	Orange plastic (rim, frame of #31246).
SN15	(32)	Semi-transparent plastic excluding coatings (rear car light of #31246, #31231, #31513).
SN16	(33)	Semi-transparent plastic (car light of all styles).
SN17	(34)	Off-white plastic excluding coatings (rim of #31513, 31231).
SN18	(35)	Matte black plastic (roof, tail of #31246).
SN19	(36)	Transparent adhesive plastic with inaccessible coatings (mirror of all styles).
SN20	(37)	White adhesive paper with transparent plastic film and inaccessible coatings (sticker of #31231).
SN21	(38)	White adhesive paper with printings (black, yellow) (sticker of #31354).

Date sample received: Sep 17, 2019 & Oct 18, 2019

Testing period: Sep 17, 2019 to Oct 22, 2019



Test Report

Number: GZHH00339668

Tests Conducted

7 Phthalates Content

By solvent extraction and followed by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Test item	Result (%)		Reporting limit (%)
	Tested component		
	(7+10+15), (21+22), (23+24), (25+26+27), (28+29+30), (31+32+33), (34+35+36), (37), (38)		
Di-n-hexyl phthalate (DnHP)	ND		0.01
Di-iso-butyl phthalate (DIBP)	ND		0.01
Di-cyclohexyl phthalate (DCHP)	ND		0.01
Di-n-pentyl phthalate (DPENP)	ND		0.01

ND = Not Detected

Tested Components:

Sequence No.	Test Component No.	Test Component Description(s)
SN1	(7)	Coatings (orange, black, white, silver color, blue, red, dark taupe) on metal/plastic (body, outside mirror, fender, rim, exhaust, center console, rear car light, window of #31246).
SN2	(10)	Coatings (yellow, black, silver color, red, orange) on metal/plastic (body of #31133, exhaust of #31133, rim, engine of #31354, fender of #31231).
SN3	(15)	Coatings (yellow, white, black, blue, silver color, metallic light blue) on metal/plastic (body, base of engine, roof, front engine of #31354).
SN4	(21)	Coatings (yellow, orange, silver color, black, red, dark yellow, dark grey) on metal/plastic (body, fender, rear car light, roof, door, center console of #31231).
SN5	(22)	Coatings (metallic silver-grey, silver color, red) on metal (body of #31513).
SN6	(23)	Black 60 °PVC plastic (tire of #31231, #31354, #31513).
SN7	(24)	Black 70 °PVC plastic (tire of #31133, #31246).
SN8	(25)	Black plastic (base of all styles).
SN9	(26)	Dark taupe plastic (door, center console of #31231).
SN10	(27)	Transparent plastic (window of all styles).
SN11	(28)	Black plastic excluding coatings (outside mirror, fender of #31246, exhaust of #31133, rim, engine of #31354, fender of #31231, base of engine of #31354).
SN12	(29)	Black soft plastic (outside mirror, windshield wiper of #31231).
SN13	(30)	Yellow plastic excluding coating (roof of #31231, #31354).
SN14	(31)	Orange plastic (rim, frame of #31246).
SN15	(32)	Semi-transparent plastic excluding coatings (rear car light of #31246, #31231, #31513).



Test Report

Number: GZHH00339668

Tests Conducted

Sequence No.	Test Component No.	Test Component Description(s)
SN16	(33)	Semi-transparent plastic (car light of all styles).
SN17	(34)	Off-white plastic excluding coatings (rim of #31513, 31231).
SN18	(35)	Matte black plastic (roof, tail of #31246).
SN19	(36)	Transparent adhesive plastic with inaccessible coatings (mirror of all styles).
SN20	(37)	White adhesive paper with transparent plastic film and inaccessible coatings (sticker of #31231).
SN21	(38)	White adhesive paper with printings (black, yellow) (sticker of #31354).

Date sample received: Sep 17, 2019 & Oct 18, 2019
Testing period: Sep 17, 2019 to Oct 22, 2019

8 Polycyclic Aromatic Hydrocarbons (PAHs) Content

With reference to AfPS GS 2014:01 PAK (PAH), PAHs content was determined by Gas Chromatography-Mass Spectrometry (GC-MS).

Test item	Result (mg/kg)	Reporting limit (mg/kg)	Limit (mg/kg)
	Tested component (3+6), (9+12), (13+14), (18+20), (22), (23+24), (25+29), (30+33), (34+35), (36), (37), (38), (41+42+43), (44+45+46), (47+48+49)		
Benzo[a]anthracene	ND	0.1	0.5
Chrysene	ND	0.1	0.5
Benzo[b]fluoranthene	ND	0.1	0.5
Benzo[k]fluoranthene	ND	0.1	0.5
Benzo[a]pyrene	ND	0.1	0.5
Dibenzo[a,h]anthracene	ND	0.1	0.5
Benzo[j]fluoranthene	ND	0.1	0.5
Benzo[e]pyrene	ND	0.1	0.5

ND= Not detected (less than reporting limit)

Tested Component(s):

Sequence No.	Test Component No.	Test Component Description(s)
SN1	(3)	Dark taupe coating on plastic (center console of #31246).
SN2	(6)	Coatings (orange, black, white, silver color, blue) on metal (body of #31246).
SN3	(9)	Coatings (yellow, black, silver color, red, orange, bright silver color) on metal (body of #31133).



Test Report

Number: GZHH00339668

Tests Conducted

Tested Component(s):

Sequence No.	Test Component No.	Test Component Description(s)
SN4	(12)	Yellow coating on plastic (roof of #31354).
SN5	(13)	Coatings (yellow, blue, silver color) on plastic (front engine of #31354).
SN6	(14)	Coatings (yellow, white, black, silver color, red) on metal (body of #31354).
SN7	(18)	Coatings (dark yellow, black, red) on plastic (roof of #31231).
SN8	(20)	Coatings (yellow, orange, silver color, black, red) on metal (body of #31231).
SN9	(22)	Coatings (metallic silver-grey, silver color, red) on metal (body of #31513).
SN10	(23)	Black 60 °PVC plastic (tire of #31231, #31354, #31513).
SN11	(24)	Black 70 °PVC plastic (tire of #31133, #31246).
SN12	(25)	Black plastic (base of all styles).
SN13	(29)	Black soft plastic (outside mirror, windshield wiper of #31231).
SN14	(30)	Yellow plastic excluding coating (roof of #31231, #31354).
SN15	(33)	Semi-transparent plastic (car light of all styles).
SN16	(34)	Off-white plastic excluding coatings (rim of #31513, 31231).
SN17	(35)	Matte black plastic (roof, tail of #31246).
SN18	(36)	Transparent adhesive plastic with inaccessible coatings (mirror of all styles).
SN19	(37)	White adhesive paper with transparent plastic film and inaccessible coatings (sticker of #31231).
SN20	(38)	White adhesive paper with printings (black, yellow) (sticker of #31354).
SN21	(41)	Black plastic with orange coating (outside mirror, fender of #31246).
SN22	(42)	Orange plastic with silver color coating (rim, exhaust of #31246, #31513, #31231, #31133).
SN23	(43)	Semi-transparent plastic with red coating (rear car light of #31246, #31513).
SN24	(44)	Transparent plastic with black coating (window of all styles).
SN25	(45)	Black plastic with bright silver color coating (exhaust of #31133, rim, engine of #31354, fender of #31231).
SN26	(46)	Black plastic with metallic light blue coating (base of engine of #31354).
SN27	(47)	Black plastic with dark grey coating (fender of #31231).
SN28	(48)	Semi-transparent plastic with coatings (red, orange) (rear car light of #31231).
SN29	(49)	Dark taupe plastic with coatings (white, black, red) (door, center console of #31231).

Date sample received: Sep 17, 2019 & Oct 18, 2019

Testing period: Sep 17, 2019 to Oct 22, 2019



Test Report

Number: GZHH00339668

Tests Conducted

Appendix

Applicant's Ref.	:	31021	1:24 Allstars, Assorted
		31027	1:27 Hummer, Assorted
		31029	1:24 Custom Shop, Assorted
		31084	1:24 Special Edition (#31900) with white mailer box
		31088	1:24 Pro-Rodz, Assorted
		31089	1:24 Pro-Rodz ~ 1968 Chevrolet Camaro SS 396 Convertible
		31302	1:24 Special Edition in Creative graphic window box
		31900	1:24 - 1:27 Special Edition, Assorted
		31900A	1:24 ~ 1:27 SCALE METAL KRUZERZ, ASSORTED
		31900B	1:24 ~ 1:27 SCALE METAL KRUZERZ, ASSORTED
		32019	1:24 Custom Shop + 1:24 ProdRodz ProStreet, Assorted
		32065	Marvel Iron Man 2 1:24 Die-cast Vehicle Asst.
		32089	1:24 Dirt Riders ~ Assorted
		32990	1:24 AllStars Elite Transport
		34009	1:24 - 1:27 Scale Vehicles in Floor Display
		32301	1:24 Hippie Line ~ Volkswagen Van "Samba"
		34019	14pcs 1:24 Custom Shop in Floor Display
		34032	1:24 Dirt Riders 4pcs bulk in display box
		34040	Mixed item floor display
		34041	7 pcs 1:24 HD Ford Mustang + 7 pcs 1:24 Pickup in Floor Display
		34049	1:24 Harley Davidson Ford, Asst. 20 pcs in floor display
		34088	1:24 Pro-Rodz, Assorted ~ 4 pcs tray pack
		34089	1:24 Custom Shop 4pk bulk in display box
		34900	1:24 Scale 4 pk Vehicles in Open Tray Display
		32900	1:24 SE + 1:12 Moto Assorted
		62011	1:24 SE + 1:12 Moto Assorted
		32520	1:24 Maisto Design Off-Road Kings, Assorted
		31710	1:24 Special Edition Trucks
		34710	1:24 Special Edition Trucks 4PK vehicles in display tray.
		32451	1:24 Design Classic Muscle, Assorted
		32452	1:24 Design Modern Muscle, Assorted
		32453	1:24 Design Exotic, Assorted
		32454	1:24 Design Outlaws, Assorted
		32455	1:24 Design Authority, Assorted
		32456	1:24 Maisto Design Tokyo Mod , Assorted
		32457	1:24 Design Classics , Assorted



Test Report

Number: GZHH00339668

Tests Conducted



End of report

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