

Test Report

Number: GZHH00342154

Applicant: RASTAR GROUP
XINGHUI INDUSTRIAL PARK,
XIADAO ROAD, SHANGHUA, CHENGHAI,
SHANTOU, GUANGDONG, CHINA

Date: Oct 25, 2019

Sample Description:

Five (5) sets of submitted sample said to be :
Item Name : Model R/C Car
Labelled Age Group : 6+
Appropriate Age Grading for : Over 6 years
Testing
Packaging Provided by : Yes
Applicant
Country of Origin : China



Tests conducted:

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

To be continued



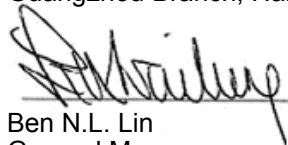
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Conclusion:

<u>Tested sample</u>	<u>Standard</u>	<u>Result</u>
Submitted sample sets	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 sets	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

Authorized by:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch, Hardlines



Ben N.L. Lin
General Manager



Test Report

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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
Drop test	8.5	850 mm x 5 times
Impact test	8.7	1 kg
Flexibility of metallic wires	8.13	70 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	P
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



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Clause	Testing Items	Assessment
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	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



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

Date sample received : Oct 16,2019

Testing period : Oct 16,2019 to Oct 18, 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 16,2019

Testing period : Oct 16,2019 to Oct 18, 2019



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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					
	(2)	(3)	(14)	(26)		
Aluminium (Al)	16621	579	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	557	1780	100	46000



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Tests Conducted

Element	Result (mg/kg)	Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component		
	(4), (18), (24), (25), (28)		
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
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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		
	(15), (16), (17), (19), (20), (21), (22), (23), (27)		
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
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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. Client requirement on Aluminium (Al) for category(III) = 28130 mg/kg
= 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

(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 16, 2019

Testing period: Oct 16, 2019 to Oct 24, 2019



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Number: GZHH00342154

Tests Conducted

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

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	Tested Component			
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Date sample received: Oct 16, 2019

Testing period: Oct 16, 2019 to Oct 24, 2019



Tests Conducted

Component list:

- (1) @Coatings (blue, silver color) on plastic (logo of car of sample #1, #2, #3).
- (2) Silver color coating on plastic (side, entrance mat, steering wheel, spare wheel, wheel, tail of car of sample #1, #2, #3, #4, #5, pattern of remote control of sample #1, #2, #3) (sample weight: 50.1mg).
- (3) Bright silver color coating on plastic (head logo, exhaust pipe, outside mirror of car of sample #1, #2, #3) (sample weight: 32.5mg).
- (4) Black coating on plastic (edge of roof of car sample #1, #3) (sample weight: 62.5mg).
- (5) @White coating on plastic (pattern of remote control of all styles).
- (6) @Red coating on plastic (pattern of trunk door, rear of car of sample #1, #2).
- (7) @Orange coating on plastic pattern of trunk door of car of sample #3).
- (8) @Coatings (red, black) on plastic (pattern of tail of car sample #4, #5).
- (9) @Coatings (red, white, green) on plastic (pattern of car of sample #4, #5).
- (10) @Coatings (silver color, red, black) on plastic (pattern of body side molding of car of sample #4, #5).
- (11) @Coatings (gold color, black) on plastic (head logo of car of sample #4, #5).
- (12) @Coatings (white, black, red) on plastic (rear logo of car of sample #4, #5).
- (13) @Gold color coating on plastic (logo of remote control of sample #4, #5).
- (14) White plastic (body of car sample #1).
- (15) Black plastic (edge of windshield wiper, windshield, sliding sunroof, window, safe seats, car door, spare wheel, trunk, head of car of sample #1, #2, #3, chassis, wheel, battery covering, switch of car of all styles, body, battery covering of remote control of sample #1, #2, #3).
- (16) Black plastic (body of car of sample #2).
- (17) Bright black plastic (windshield wiper, windshield, rear of car of sample #4, #5, body of remote control of sample #4, #5).
- (18) Black soft plastic (outside mirror of car of all styles, antenna of remote control of sample #1, #2, #3).
- (19) Black soft plastic (tire of car of all styles).
- (20) Off white plastic (direction adjustment of car of sample #1, #2, #3).
- (21) Transparent white plastic (direction adjustment of car of sample #4, #5).
- (22) Transparent plastic (headlight, bonnet, windshield, window, sliding sunroof, rear window of car of sample #1, #2, #3).
- (23) Transparent red plastic (tail lamp of car of sample #1, #2, #3).
- (24) Red plastic (body of car of sample #3).
- (25) Light red plastic (outside mirror, exhaust pipe of car of sample #1, #2, #3).
- (26) Bright red plastic (button of remote control of sample #1, #2, #3).
- (27) Orange plastic (body of car sample #4).
- (28) Yellow plastic (body of car sample #5).

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



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Tests Conducted

Appendix

Reference No./Description	:	97600	Ferrari SF90 Stradale
		79300	Ferrari FXX K EVO
		79500	Jeep Wrangler JL
		95800	Mercedes-Benz G63
		96100	Lamborghini Aventador SVJ
		96110	Lamborghini Aventador SVJ Performance
		96200	BMW Z4 Roadster
		14700	BMW 645CI
		15000	MINI COOPER S
		26300	Lamborghini Superleggera
		26910	Lamborghini Reventon
		27300	Audi Q7
		30300	Range Rover Sport
		30500	Mercedes-Benz G55
		30700	AUDI TT
		31700	BMW X6
		32100	Mercedes-Benz GLK
		34200	Mercedes CL63 AMG
		38010	Pagani Zonda R
		38600	Audi Q5
		39000	Lamborghini Murcielago LP670-4
		39001	Lamborghini Murcielago LP670-4
		39700	BMW Z4
		39800	PEUGEOT 308
		39900	Porsche GT3 RS
		40100	Mercedes-Benz SLS AMG
		44700	Golf GTI
		46100	Porsche Cayenne Turbo
		46200	Porsche Panamera
		46300	Lamborghini Aventador LP700
		46400	Ferrari 599 GTO
		46500	Ferrari California
		46600	Ferrari 458 Italia
		46700	Ferrari FF
		46800	AUDI R8
		46900	Range Rover Evoque
		47000	Bugatti Grand Sport Vitesse
		48100	Ferrari F12
		48200	Lamborghini Sesto
		48300	BMW M3
		48400	BMW I8
		48500	Range Rover Sport 2013 Version
		48600	Bentley Continental GT speed



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Appendix

Reference No./Description	:	48800	Mercedes-Benz A-class
		48900	Ferrari LaFerrari
		71200	BMW I3
		71400	Porsche 918 Spyder
		71410	Porsche 918 Spyder
		71500	Lamborghini HURACÁN LP610-4
		71600	MINI Countryman JCW RX
		71700	MINI Countryman
		71800	Porsche Macan Turbo
		71900	Ferrari 458 Speciale A
		72100	Mercedes-AMG GT
		72300	AUDI R8 2015 Version
		74920	Mercedes-Benz Actros with 1/24 scale Car
		74940	Mercedes-Benz Actros with 1/24 scale Car
		74930	Mercedes-Benz Actros 2.4G
		75200	McLaren P1
		76000	Ferrari 488 GTB
		76100	Bugatti Veyron Chiron
		76200	Volkswagen Beetles
		78200	Ford GT
		78500	Land Rover Defender
		78800	Ferrari F40
		97800	Lamborghini Sian

End of report

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