

Date:

Sep 18, 2021

Applicant: SHANGHAI HAPPY CHILDREN FACTORY

XIN JIANFENG 1002, JIN YANG VILLAGE,

LANG XIA TOWN, JIN SHAN DISTRICT, SHANGHAI

Sample Description:

One (1) Piece Of Submitted Sample Said To Be:

Item Name : Battery Operated Ride-On Car.

Item No. : Aprilia Dorsoduro 900

Packaging Provided : Yes
Labelled Age Group : 3+
Country Of Origin : China

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Page(s).

Prepared And Checked By:

For Intertek Testing Services Wuxi Ltd.

Peter Chen General Manager







Tested Components

Of Submitted Sample

Conclusion:

TEST REPORT Number: WUXH00119151

<u>Tested Sample</u> Submitted Sample	Standard EN71-1: 2014+ A1: 2018 For Mechanical And Physical Properties	Result Pass
Submitted Sample	EN71-2: 2020 Flammability Test	Pass
Submitted Sample	EN IEC 62115:2020+A11:2020 Safety of Electric Toys Excluding Clause 15.1.2, Clause 15.4, Clause 19, Annex C, Annex E, Annex I	Pass (Subjected to Remark enclosed)

EN 71-3:2019+A1:2021 On Migration Of Certain Elements

Tested Components EN 71-3:2019 On Migration Of Certain Elements Pass Of Submitted Sample

Tested Components EN 71-3: 2019 on migration of certain elements & EU 2019/1922 amending 2009/48/EC (effective from May, 20,2021) for Aluminium

(AI) migration

Prepared And Checked By: For Intertek Testing Services Wuxi Ltd.

Peter Chen General Manager



Pass

Pass

(S)



Tests Conducted (As Requested By The Applicant)

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: Over 3 Years

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	90 N	
Protective Components	8.4.2.3	60 N	
Tip Over Test	8.6	3times	
Impact Test	8.7	1 kg	
Compression Test	8.8	110 N	
Flexibility of Metallic Wires	8.13	70 N	

Clause	Testing Items	<u>Assessment</u>
4	General Requirements	
4.1	Material	Р
4.2	Assembly	Р
4.3	Flexible plastic sheeting	NA
4.4	Toy bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7	Edges	Р
4.8	Points and metallic wires	Р
4.9	Protruding parts	Р
4.10	Parts moving against each other	Р
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	Р
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	Р





	Testing Items	Assessment
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
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	Р
7	Warnings, markings and instructions for use	
7.1	General	Р
7.2	Toys not intended for children under 36 months	Р
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



Tests Conducted (As Requested By The Applicant)

Clause	Testing Items	<u>Assessment</u>
7.12	Liquid-filled teethers	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

Remark: Additional information according to the Toy Safety Directives 2009/48/EC requirement. These information also appears as a note within the EN 71 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.

After checking, it was found that:

	Toy	Packaging
Manufacturer's name	Present	Present
Manufacturer's address	Present	Present
Importer's name	Absent	Absent
Importer's address	Absent	Absent
Product identification code	Present	Present
CE-marking	Absent	Present

Below is additional information checking according to the UK Toy (Safety) Regulations requirement.

<u>Marking</u>





Tests Conducted (As Requested By The Applicant)

The manufacturer's and importer's name, registered trade name or registered trademark, the address and type, batch, serial or model number or other element allowing their identification shall be indicated on the product itself.

After checking, it was found that:

	Toy	Packaging
Name of authorised	Present	Present
representative in Great Britain		
Address of authorised	Present	Present
representative in Great Britain		
Product identification code	Present	Present

With reference to the guidance of using UKCA marking from 1 January 2021 by the Department for Business, Energy and Industrial Strategy published on 1 September 2020.

After checking UKCA marking, it was found that:

	Toy	Packaging
UKCA marking	Present	Present

Date Sample Received: Aug 13, 2021&Sep 18, 2021 Testing Period: Aug 13, 2021 To Sep 18, 2021





Tests Conducted (As Requested By The Applicant)

2 Flammability Test

As per European Standard on Safety of Toys EN71-2: 2020

Clause	Testing Items	Assessment
4.1	General	Р
4.2	Toys to be worn on the head	
4.2.2	Beards, moustaches, wigs, etc., made from pile or flowing elements which protrude 50 mm or more from the surface of the toy	NA
4.2.3	Beards, moustaches, wigs, etc., made from pile or flowing elements 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	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: Aug 13, 2021&Aug 13, 2021 Testing Period: Aug 13, 2021 To Sep 18, 2021



Tests Conducted (As Requested By The Applicant)

3 Safety of Electric Toys

As per European Standard on Safety of Electric Toys EN IEC 62115:2020+A11:2020

Applicant's Specified Age Group for Testing: Over 3 Years

Battery Type: 12 V, 4.5 AH, Lead-acid rechargeable battery x 1pc

Charger Type: Input 100-240 V A.C., Output 12 V D.C. (Provided)

Model: GA09-1200500EU

Normal Use Operation: Battery powered motion, sound and LED light.

<u>Clause</u>	Requirement	<u>Assessment</u>
1	Scope	
2	Normative reference	
3	Term and definitions	
4	General requirement	
5	General conditions for test	
6	Criteria for reduced testing	NA
6.1	General	
6.2	Short-circuit resistance	NA
6.3	Low power electric toys	NA
6.4	Battery circuits	NA
7	Marking and instructions	Р
7.1	General	Р
7.2	Marking on electric toys	Р
7.2.1	Identification	See remark(1)
7.2.2	Electric toys with replaceable batteries	Р
7.2.3	Transformer toys and power supply toys	NA
7.2.4	Electric toys with more than one power supply	NA
7.2.5	Electric toys with detachable lamps	NA
7.2.6	Symbols	NA
7.2.7	Durability	Р
7.3	Instructions and markings on packaging	Р
7.3.1	General	Р
7.3.2	Transformer toys and power supply toys	Р
7.3.3	Electric toys that are used with replaceable batteries	P
7.3.3.1	General	P
7.3.3.2	Coin batteries	NA
7.3.3.3	Button batteries	NA
7.4	Instructions for electric toys that can be connected to class I equipment	NA
7.5	Instructions for ride-on electric toys	Р
7.6	Temperature warnings	NA
8	Power input	NA
9	Heating and abnormal operation	Р
9.1	General	P



Tests Conducted (As Requested By The Applicant)

Clause	Requirement	<u>Assessment</u>
9.2	Test condition	
9.3	Normal operation	Р
9.4	Normal operation with insulation short-circuited	Р
9.5	Abnormal operation with temperature controls made inoperable	NA
9.6	With accessible moving parts locked	Р
9.7	Additional transformers and power supplies	NA
9.8	Abnormal supply to electric toys via a USB connection.	NA
9.9	Fault condition in electronic circuits	Р
9.10	Compliance criteria	Р
10	Electric strength	Р
10.1	Electric strength at operating temperature	Р
10.2	Electric strength under humid conditions	Р
11	Electric toys used in water, electric toys used with liquid and electric toys cleaned with liquid	NA
12	Mechanical strength	Р
12.1	Enclosures	P
12.2	Attachment strength	P
13	Construction	P
13.1	Nominal supply voltage	P
13.2	Transformers, power supplies and battery chargers	P
13.3	Thermal cut-outs.	NA
13.4	Batteries	P
13.4.1	Small batteries	NA
13.4.2	Other batteries	P
13.4.3	Electrolyte leakage	Р
13.4.4	Electric toys placed above a child	NA
13.4.5	Parallel connection of batteries	NA
13.4.6	Battery compartment fasteners	Р
13.5	Plug and sockets	Р
13.6	Charging batteries	Р
13.7	Series motors	NA
13.8	Working voltage	NA
13.9	Electric toys connecting to other equipment.	NA
13.10	Speed limitation of ride-on electric toys	Р
14	Protection of cords and wires	Р
14.1	Edges and moving parts	Р
14.2	Fixed parts	NA
15	Components	See remark(2)&(3)
15.1.1	General	
15.1.2	Switches and automatic controls	See remark(3)
15.1.3	Other components	See remark(2)
15.2	Prohibited components	Р
15.3	Transformers and power supplies	NA
15.4	Battery chargers	See remark(2)
15.5	Batteries	NA

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Tests Conducted (As Requested By The Applicant)

1	ed (As Requested by The Applicant)	
<u>Clause</u>	Requirement	<u>Assessment</u>
16	Screws and connections	Р
16.1	Fixings	Р
16.2	Connections	Р
17	Clearances and creepage distances	Р
18	Resistance to heat and fire	Р
18.1	Resistance to heat	Р
18.2	Resistance to fire	Р
18.2.1	General	
18.2.2	Non-metallic parts	Р
18.2.3	Insulating material	Р
19	Radiation and similar hazards	See remark(3)
19.1	General	
19.2	Optical radiation	See remark(3)
	Toys incorporating lasers and or light emitting diodes (LED) or UV emitting	
	lamps shall comply with Annex E.	
	Electric toys incorporating LEDs shall comply with 19.E.2.	
	Electric toys incorporating lasers shall comply with 19.E.3	
	Electric toys incorporating UV-emitting lamps shall comply with 19.E.4	
19.3	Other electromagnetic radiation	See remark(3)
	Electric toys with an integrated field source that may produce harmful	
	electromagnetic radiation Measurements methods are given in Annex I.	
Annex A	Experimental sets	NA
Annex B	Needle-flame test	NA
Annex C	Automatic controls and switches	See remark (3)
Annex D	Electric toys with protective electronic circuits	NA
Annex E	Safety of electric toys incorporating optical radiation sources	See remark (3)
Annex F	Flowcharts showing the assessment of optical radiation safety of LEDs in electric	
	toys	
Annex G	Examples of calculations on LEDs	
Annex H	Explanation of the principles used for the requirements of Annex E	
Annex I	Electric toys generationg electromagnetic fields (EMF)	See remark (3)
Annex J	Safety of remote controls for electric ride-on toys	NA
Annex K	Flow charts showing the application of Clause 9	

Abbreviation: A = Applicable NA = Not ApplicableP = PassF = Fail

Remark:

(1)Only the English version of the marking and instructions were assessed. According to the standard, instruction sheets and other texts required by the standard shall be written in the official language of the country in which the product is to be sold.



Tests Conducted (As Requested By The Applicant)

Below are additional information according to the requirement in Toy Safety Directive 2009/48/EC relating to marking of toys and do not constitute requirements of this European Standard:

The manufacturer's and importer's name, registered trade name or registered trade mark, the address and type, batch, serial or model number or other element allowing their identification shall be indicated on the toy or, where that is not possible, on its packaging or in a document accompanying the toy.

After checking, it was found that:

The receiving to was round	Toy	Packaging
Manufacturer's name	Present	Present
Manufacturer's address	Present	Present
Importer's name	Absent	Absent
Importer's address	Absent	Absent
Product identification	Present	Present
code		

(2) Components shall comply with the safety requirements specified in the relevant IEC standards as far as they reasonably apply.

Applicant needs to ensure that battery charger for toys shall comply with IEC 60335-2-29:2016 and Annex AA of that standard.

(3) As requested by the applicant, Annex C, Annex E, Annex I was not assessed.

Date Sample Received: Aug 13, 2021&Sep 18, 2021 Testing Period: Aug 13, 2021 To Sep 18, 2021





Tests Conducted (As Requested By The Applicant)

4 19 Toxic Element Migration Test

(A) Test Result

As per EN 71-3:2019+A1:2021 and followed by Inductively Coupled Plasma Atomic Emission Spectrometry, Inductively Coupled Argon Mass Spectrometry, Ion Chromatography- Inductively Coupled Plasma-Mass Spectrometry, Ion Chromatography with UV-VIS and Gas Chromatographic - Mass Spectrometry.

Category (III): Scraped-off toy material

<u>Element</u>		Re	Reporting <u>Limit</u>	<u>Limit</u> (mg/kg)							
	(1)	(2)	(3)	(4)	(5)	<u>(mg/kg)</u>	<u>(1119/169/</u>				
Aluminium (Al)	ND	ND	ND	ND	ND	300	28130				
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)	ND	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 ++	NDΔ	NDΔ	NDΔ	NDΔ	NDΔ	5	12				
Zinc (Zn)	ND	ND	ND	ND	ND	100	46000				



<u>Element</u>		Re	Reporting Limit	<u>Limit</u> (mg/kg)						
	(6)	(7)	(8)	(9)	(10)	0) <u>(mg/kg)</u> (mg/k				
Aluminium (AI)	ND	ND	ND	ND	329	300	28130			
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)	ND	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 ++	NDΔ	NDΔ	NDΔ	NDΔ	NDΔ	5	12			
Zinc (Zn)	ND	161	ND	ND	ND	100	46000			



<u>Element</u>		Re		Reporting Limit	<u>Limit</u> (mg/kg)					
	(11)	(12)	(13)	(14)	(15)	<u>(mg/kg)</u> (mg/kg)				
Aluminium (Al)	ND	ND	ND	ND	ND	300	28130			
Antimony (Sb)	ND	ND	12	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)	ND	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 ++	NDΔ	NDΔ	NDΔ	NDΔ	NDΔ	5	12			
Zinc (Zn)	ND	ND	ND	ND	ND	100	46000			



Element		Re		Reporting Limit	<u>Limit</u> (mg/kg)					
	(16)	(17)	(18)	(19)	(20)	20) <u>(mg/kg)</u> (mg/				
Aluminium (Al)	ND	ND	ND	ND	ND	300	28130			
Antimony (Sb)	ND	ND	ND	ND	ND	10	560			
Arsenic (As)	ND	ND	ND	ND	ND	10	47			
Barium (Ba)	ND	ND	ND	ND	11	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)	ND	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 ++	NDΔ	NDΔ	NDΔ	NDΔ	NDΔ	5	12			
Zinc (Zn)	ND	ND	ND	ND	ND	100	46000			



<u>Element</u>		Re		Reporting <u>Limit</u>	<u>Limit</u> (mg/kg)		
	(21)	(22)	(23)	(24)	(25)	<u>(mg/kg)</u>	(IIIg/Kg)
Aluminium (Al)	16870	4638	ND	ND	ND	300	28130
Antimony (Sb)	ND	ND	ND	ND	ND	10	560
Arsenic (As)	ND	ND	ND	ND	ND	10	47
Barium (Ba)	195	11	480	16	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	0.051	ND	ND	ND	0.025	0.053
Cobalt (Co)	ND	ND	ND	ND	ND	10	130
Copper (Cu)	ND	ND	ND	ND	ND	10	7700
Lead (Pb)	ND	ND	ND	ND	ND	10	23
Manganese (Mn)	ND	ND	ND	21	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)	4.5	ND	ND	ND	ND	2.5	180000
Organic tin ++	NDΔ	NDΔ	NDΔ	NDΔ	NDΔ	5	12
Zinc (Zn)	ND	ND	ND	ND	ND	100	46000



Tests Conducted (As Requested By The Applicant)

<u>Element</u>		Re	Reporting Limit	<u>Limit</u> (mg/kg)						
	(26)	(27)	(28)	(29)	(30)	30) <u>(mg/kg)</u> (mg/kg)				
Aluminium (Al)	ND	ND	ND	ND	ND	300	28130			
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)	ND	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 ++	NDΔ	NDΔ	NDΔ	NDΔ	NDΔ	5	12			
Zinc (Zn)	ND	ND	ND	ND	ND	100	46000			

Remark: mg/kg = milligram per kilogram

++ = Unless the test results were marked with " Δ ", Organic tin contents were not directly determined and were derived from migration results of total tin.

- Organic tin test result was expressed as tributyl tin.

ND = Not Detected (less than reporting limit)

= The reported value of migration of Chromium (III) = migration value of total Chromium – migration value of Chromium(VI).

 Δ = Confirmation test was performed on the tested component. The reported value was the sum of the migration values of Dimethyl tin, Methyl tin, Butyl tin, Dibutyl tin, Tributyl tin, Tetrabutyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin and Triphenyl tin after converted to Tributyl tin by calculation. Other Organic tin compounds may be also be present in sample as stated in EN 71-3:2019+A1:2021.

Tested Components: See Component List In The Last Section Of This Report.





Tests Conducted (As Requested By The Applicant)
(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: Aug 13, 2021

Testing Period: Aug 13, 2021 To Sep 18, 2021





Tests Conducted (As Requested By The Applicant)

5 19 Toxic Elements Migration Test

(A) Test Result

As per EN 71-3:2019 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

<u>Element</u>		Limit (mg/kg)				
	(1)	(2)	(3)	(4)	(5)	, ,
Aluminium (Al)	< 300	< 300	< 300	< 300	< 300	70000/28130©
Antimony (Sb)	< 10	< 10	< 10	< 10	< 10	560
Arsenic (As)	< 10	< 10	< 10	< 10	< 10	47
Barium (Ba)	< 10	< 10	< 10	< 10	< 10	18750
Boron (B)	< 50	< 50	< 50	< 50	< 50	15000
Cadmium (Cd)	< 5	< 5	< 5	< 5	< 5	17
Chromium (III) (Cr III) ++	< 10	< 10	< 10	< 10	< 10	460
Chromium (VI) (Cr VI) ++	< 0.025	< 0.025	< 0.025#	< 0.025#	< 0.025#	0.053
Cobalt (Co)	< 10	< 10	< 10	< 10	< 10	130
Copper (Cu)	< 10	< 10	< 10	< 10	< 10	7700
Lead (Pb)	< 10	< 10	< 10	< 10	< 10	23
Manganese (Mn)	< 10	< 10	< 10	< 10	< 10	15000
Mercury (Hg)	< 10	< 10	< 10	< 10	< 10	94
Nickel (Ni)	< 10	< 10	< 10	< 10	< 10	930
Selenium (Se)	< 10	< 10	< 10	< 10	< 10	460
Strontium (Sr)	< 100	< 100	< 100	< 100	< 100	56000
Tin (Sn)	< 10	< 10	< 10	< 10	< 10	180000
Organic tin ++	< 3.0∆	< 3.0∆	< 3.0 \D	< 3.0 \D	< 3.0∆	12
Zinc (Zn)	< 100	< 100	< 100	< 100	< 100	46000





<u>Element</u>			tesult (mg/kg			<u>Limit (mg/kg)</u>
A1	(6)	(7)	(8)	(9)	(10)	70000/20120@
Aluminium (Al)	< 300	< 300	< 300	< 300	329	70000/28130©
Antimony (Sb)	< 10	< 10	< 10	< 10	< 10	560
Arsenic (As)	< 10	< 10	< 10	< 10	< 10	47
Barium (Ba)	< 10	< 10	< 10	< 10	< 10	18750
Boron (B)	< 50	< 50	< 50	< 50	< 50	15000
Cadmium (Cd)	< 5	< 5	< 5	< 5	< 5	17
Chromium (III) (Cr III) ++	< 10	< 10	< 10	< 10	< 10	460
Chromium (VI) (Cr VI) ++	< 0.025#	< 0.025#	< 0.025#	< 0.025	< 0.025#	0.053
Cobalt (Co)	< 10	< 10	< 10	< 10	< 10	130
Copper (Cu)	< 10	< 10	< 10	< 10	< 10	7700
Lead (Pb)	< 10	< 10	< 10	< 10	< 10	23
Manganese (Mn)	< 10	< 10	< 10	< 10	< 10	15000
Mercury (Hg)	< 10	< 10	< 10	< 10	< 10	94
Nickel (Ni)	< 10	< 10	< 10	< 10	< 10	930
Selenium (Se)	< 10	< 10	< 10	< 10	< 10	460
Strontium (Sr)	< 100	< 100	< 100	< 100	< 100	56000
Tin (Sn)	< 10	< 10	< 10	< 10	< 10	180000
Organic tin ++	< 3.0 \D	< 3.0 \D	< 3.0∆	< 3.0∆	< 3.0 \D	12
Zinc (Zn)	< 100	161	< 100	< 100	< 100	46000
<u>Element</u>		<u>R</u>	tesult (mg/kg)		Limit (mg/kg)
	(11)	(12)	(13)	(14)	(15)	
Aluminium (AI)	(11) < 300		(13) < 300	(14) < 300	(15) < 300	70000/28130©
		(12)				
Aluminium (AI)	< 300	(12) < 300	< 300	< 300	< 300	70000/28130©
Aluminium (AI) Antimony (Sb)	< 300 < 10	(12) < 300 < 10	< 300 12	< 300 < 10	< 300 < 10	70000/28130⊚ 560
Aluminium (AI) Antimony (Sb) Arsenic (As)	< 300 < 10 < 10	(12) < 300 < 10 < 10	< 300 12 < 10	< 300 < 10 < 10	< 300 < 10 < 10	70000/28130© 560 47
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba)	< 300 < 10 < 10 < 10	(12) < 300 < 10 < 10 < 10	< 300 12 < 10 < 10	< 300 < 10 < 10 < 10	< 300 < 10 < 10 < 10	70000/28130⊚ 560 47 18750
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B)	< 300 < 10 < 10 < 10 < 50	(12) < 300 < 10 < 10 < 10 < 50	< 300 12 < 10 < 10 < 50	< 300 < 10 < 10 < 10 < 50	< 300 < 10 < 10 < 10 < 50	70000/28130⊚ 560 47 18750 15000
Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd)	< 300 < 10 < 10 < 10 < 50 < 5	(12) < 300 < 10 < 10 < 10 < 50 < 5	< 300 12 < 10 < 10 < 50 < 5	< 300 < 10 < 10 < 10 < 50 < 5	< 300 < 10 < 10 < 10 < 50 < 5	70000/28130⊚ 560 47 18750 15000 17
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++	< 300 < 10 < 10 < 10 < 10 < 50 < 5 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10	70000/28130◎ 560 47 18750 15000 17 460
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co)	< 300 < 10 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025#	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025#	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025#	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025	< 300 < 10 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025	70000/28130⊚ 560 47 18750 15000 17 460 0.053
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu)	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb)	< 300 < 10 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn)	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg)	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10	70000/28130◎ 560 47 18750 15000 17 460 0.053 130 7700 23
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg) Nickel (Ni)	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg) Nickel (Ni) Selenium (Se)	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94 930 460
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg) Nickel (Ni) Selenium (Se) Strontium (Sr)	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94 930 460 56000
Aluminium (AI) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg) Nickel (Ni) Selenium (Se)	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(12) < 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 12 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94 930 460





<u>Element</u>			Result (mg/kg			<u>Limit (mg/kg)</u>
	(16)	(17)	(18)	(19)	(20)	
Aluminium (Al)	< 300	< 300	< 300	< 300	< 300	70000/28130©
Antimony (Sb)	< 10	< 10	< 10	< 10	< 10	560
Arsenic (As)	< 10	< 10	< 10	< 10	< 10	47
Barium (Ba)	< 10	< 10	< 10	< 10	11	18750
Boron (B)	< 50	< 50	< 50	< 50	< 50	15000
Cadmium (Cd)	< 5	< 5	< 5	< 5	< 5	17
Chromium (III) (Cr III) ++	< 10	< 10	< 10	< 10	< 10	460
Chromium (VI) (Cr VI) ++	< 0.025#	< 0.025	< 0.025#	< 0.025#	< 0.025#	0.053
Cobalt (Co)	< 10	< 10	< 10	< 10	< 10	130
Copper (Cu)	< 10	< 10	< 10	< 10	< 10	7700
Lead (Pb)	< 10	< 10	<10	< 10	< 10	23
Manganese (Mn)	< 10	< 10	< 10	< 10	< 10	15000
Mercury (Hg)	< 10	< 10	< 10	< 10	< 10	94
Nickel (Ni)	< 10	< 10	< 10	< 10	< 10	930
Selenium (Se)	< 10	< 10	< 10	< 10	< 10	460
Strontium (Sr)	< 100	< 100	< 100	< 100	< 100	56000
Tin (Sn)	< 10	< 10	< 10	< 10	< 10	180000
Organic tin ++	< 3.0 \D	< 3.0 \D	< 3.0 \D	< 3.0∆	< 3.0∆	12
Zinc (Zn)	< 100	< 100	< 100	< 100	< 100	46000
` ,						
<u>Element</u>			Result (mg/kg	<u>a)</u>		<u>Limit (mg/kg)</u>
	(21)	(22)	Result (mg/ko (23)	<u>a)</u> (24)	(25)	<u>Limit (mg/kg)</u>
	(21) 16870				(25) < 300	<u>Limit (mg/kg)</u> 70000/28130©
Element		(22)	(23)	(24)		, 5
Element Aluminium (Al)	16870	(22) 4638	(23) < 300	(24) < 300	< 300	70000/28130©
Element Aluminium (AI) Antimony (Sb)	16870 < 10	(22) 4638 < 10	(23) < 300 < 10	(24) < 300 < 10	< 300 < 10	70000/28130© 560
Element Aluminium (Al) Antimony (Sb) Arsenic (As)	16870 < 10 < 10	(22) 4638 < 10 < 10	(23) < 300 < 10 < 10	(24) < 300 < 10 < 10	< 300 < 10 < 10	70000/28130© 560 47
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B)	16870 < 10 < 10 195	(22) 4638 < 10 < 10 11	(23) < 300 < 10 < 10 480	(24) < 300 < 10 < 10 16	< 300 < 10 < 10 < 10	70000/28130© 560 47 18750
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd)	16870 < 10 < 10 195 < 50	(22) 4638 < 10 < 10 11 < 50	(23) < 300 < 10 < 10 480 < 50	(24) < 300 < 10 < 10 16 < 50	< 300 < 10 < 10 < 10 < 50	70000/28130⊚ 560 47 18750 15000
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++	16870 < 10 < 10 195 < 50 < 5	(22) 4638 < 10 < 10 11 < 50 < 5	(23) < 300 < 10 < 10 480 < 50 < 5	(24) < 300 < 10 < 10 16 < 50 < 5	< 300 < 10 < 10 < 10 < 50 < 5	70000/28130© 560 47 18750 15000 17
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd)	16870 < 10 < 10 195 < 50 < 5 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10	(23) < 300 < 10 < 10 480 < 50 < 5 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10	70000/28130© 560 47 18750 15000 17 460
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025#	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051#	(23) < 300 < 10 < 10 480 < 50 < 5 < 10 < 0.025#	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025#	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025#	70000/28130© 560 47 18750 15000 17 460 0.053
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10	(23) < 300 < 10 < 10 < 480 < 50 < 5 < 10 < 0.025# < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10 < 10	(23) < 300 < 10 < 10 480 < 50 < 5 < 10 < 0.025# < 10 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10 < 10 < 10	(23) < 300 < 10 < 10 480 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10 < 10 < 10 < 10	(23) < 300 < 10 < 10 480 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 11	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10 < 10 < 10 < 10	(23) < 300 < 10 < 10 480 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 11 < 10 21 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg) Nickel (Ni)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10 < 10 < 10 < 10 < 10	(23) < 300 < 10 < 10 < 480 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94 930
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg) Nickel (Ni) Selenium (Se) Strontium (Sr)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10 < 10 < 10 < 10 < 10 < 10 < 10	(23) < 300 < 10 < 10 < 480 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94 930 460
Element Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (III) (Cr III) ++ Chromium (VI) (Cr VI) ++ Cobalt (Co) Copper (Cu) Lead (Pb) Manganese (Mn) Mercury (Hg) Nickel (Ni) Selenium (Se)	16870 < 10 < 10 195 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(22) 4638 < 10 < 10 11 < 50 < 5 < 10 0.051# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(23) < 300 < 10 < 10 < 480 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	(24) < 300 < 10 < 10 16 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	< 300 < 10 < 10 < 10 < 50 < 5 < 10 < 0.025# < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10	70000/28130© 560 47 18750 15000 17 460 0.053 130 7700 23 15000 94 930 460 56000





Tests Conducted (As Requested By The Applicant)

<u>Element</u>		<u>Limit (mg/kg)</u>				
	(26)	(27)	(28)	(29)	(30)	
Aluminium (Al)	< 300	< 300	< 300	< 300	< 300	70000/28130©
Antimony (Sb)	< 10	< 10	< 10	< 10	< 10	560
Arsenic (As)	< 10	< 10	< 10	< 10	< 10	47
Barium (Ba)	< 10	< 10	< 10	< 10	< 10	18750
Boron (B)	< 50	< 50	< 50	< 50	< 50	15000
Cadmium (Cd)	< 5	< 5	< 5	< 5	< 5	17
Chromium (III) (Cr III) ++	< 10	< 10	< 10	< 10	< 10	460
Chromium (VI) (Cr VI) ++	< 0.025#	< 0.025#	< 0.025#	< 0.025#	< 0.025#	0.053
Cobalt (Co)	< 10	< 10	< 10	< 10	< 10	130
Copper (Cu)	< 10	< 10	< 10	< 10	< 10	7700
Lead (Pb)	< 10	< 10	< 10	< 10	< 10	23
Manganese (Mn)	< 10	< 10	< 10	< 10	< 10	15000
Mercury (Hg)	< 10	< 10	< 10	< 10	< 10	94
Nickel (Ni)	< 10	< 10	< 10	< 10	< 10	930
Selenium (Se)	< 10	< 10	< 10	< 10	< 10	460
Strontium (Sr)	< 100	< 100	< 100	< 100	< 100	56000
Tin (Sn)	< 10	< 10	< 10	< 10	< 10	180000
Organic tin ++	< 3.0 \D	< 3.0 \D	< 3.0∆	< 3.0∆	< 3.0∆	12
Zinc (Zn)	< 100	< 100	< 100	< 100	< 100	46000

Remark: mg/kg = Milligram per kilogram

- Organic tin test result was expressed as tributyl tin.
- = The new Aluminium (Al) migration limit [2250mg/kg for Category (I), 560mg/kg for Category (II), 28130mg/kg for Category (III)] was quoted from directive (EU) 2019/1922 amending 2009/48/EC effective from 20 May 2021.
- # = 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).
- Δ = Confirmation test was performed on the tested component. The reported value was calculated by summation of the migration values of Methyl tin, Dimethyl tin, Dibutyl tin, Tributyl tin, Tetrabutyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin, Monobutyl tin and Triphenyl tin. Other Organic tin compounds may be also be present in sample as stated in EN 71-3:2019.

Tested Components: See Component List In The Last Section Of This Report.



⁺⁺ = 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.



Tests Conducted (As Requested By The Applicant)
(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: Aug 13, 2021

Testing Period: Aug 13, 2021 To Sep 18, 2021













Tests Conducted (As Requested By The Applicant) Components List:

- (1) Bright black plastic(front body/wheel hub).
- (2) Red plastic(body).
- (3) Grey plastic(front fork).
- (4) Transparent plastic(front light).
- (5) Red transparent plastic(tail light).
- (6) Black plastic(button of music player).
- (7) Black plastic(key).
- (8) Black plastic(handlebar).
- (9) Black plastic(seat/foot rest/training wheel hub/front wheel cover).
- (10) Dark grey plastic(accelerator pedal).
- (11) Black plastic(wheels).
- (12) Black plastic(charger).
- (13) Black plastic with white printing(button).
- (14) Black plastic with beige printing(charger).
- (15) Black soft plastic(wheel antiskid part).
- (16) Black soft plastic(training wheel).
- (17) Black soft plastic with white printing(charger wire).
- (18) Black soft plastic(end of kickstand).
- (19) Transparent soft plastic(cover of spring).
- (20) Bright silver coating on plastic(seat tail).
- (21) Silver grey coating on plastic(wheel hub).
- (22) Golden coating on plastic(beside front wheel).
- (23) Orange coating on metal(front fork).
- (24) Black coating on metal(handlebar).
- (25) Red laser sticker(front fork).
- (26) Transparent adhesive plastic with black/white printing(music player).
- (27) White adhesive plastic film with black printing(body sticker).
- (28) White adhesive plastic film with red/green printing(seat tail).
- (29) White adhesive plastic film with red/black printing(warning sticker).
- (30) Reflect sticker(mirror).

End of Report

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