

Report No.: 304163423b 001

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Client: HAPE INTERNATIONAL (NINGBO)LTD

Contact Information: HAPPY ARTS&CRAFTS(NINGBO)CO.LTD
9-27NANHAI ROAD.DAGANG INDUSTRIAL
CITY.BEILUN,NINGBO.CHINA

Test item(s): Toy

Identification/ Refer to detail list

Model No(s):

Sample obtaining method: Sending by customer

Condition at delivery: Test item complete and undamaged.

Sample Receiving date: 2026-03-20

Testing Period: 2026-03-20 to 2026-04-02

Place of testing: Chemical laboratory Suzhou, Toys laboratory Suzhou

Test Specification:

Please refer to "Test Result Summary List" on page 2 for details

Other information:

Country of Origin: China

Sales Destination: Global

Packaging provided: Yes

The provided age grade of the item: M005-M008 3-8 years;M009 3-6 years.

The appropriate age grade of the item: Over 36 months.

The item was tested over 36 months.

For and on behalf of
TÜV Rheinland (Suzhou) Co., Ltd.



2026-04-07

Date

Fion Xie / Assistant Manager

Name/Position

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed.

This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

"Decision Rule" document announced in our website (<https://www.tuv.com/landingpage/en/qm-gcn/>) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.

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Test Result Summary :**Test Specification:**

- 1 EN 71-1:2014+A1:2018 Mechanical and physical properties
- 2 EN 71-1:2026 Mechanical and physical properties
- 3 2009/48/EC CE marking
- 4 2009/48/EC Labeling Requirement
(Importer/ Manufacturer Mark, Product Identification, Washing/ Cleaning instruction)
- 5 EN 71-2:2020 Flammability
- 6 EN 71-2:2020+A1:2025 Flammability
- 7 EN 71-3:2019+A2:2024 Migration of 19 Elements

Test result:

PASS
PASS
PASS
Please refer to result page
PASS
PASS
PASS



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Item NO.	Description EN	Description CN	Age group
E3216	Modern Smart-Kitchen	现代化智能感应厨房	3-8Y
E3426	Kiki's Treehouse Headquarters	琪琪的消防树屋	3-8Y
E3427	Ben's Eco Catamaran	本的清洁双体船	3-8Y
E3429	Clio's Bio Juice Cart	柯莉奥的移动果汁车	3-8Y
E1114	Habit Heroes Reward Chart	好习惯养成打卡表	3-6Y



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Material List:

Item: Refer to detail list

Material No.	Material	Color	Location
M005	Whole Product	Multi-color	E3216
M006	Whole Product	Multi-color	E3426
M007	Whole Product	Multi-color	E3427
M008	Whole Product	Multi-color	E3429
M009	Whole Product	Multi-color	E1114
B001	Wood	Natural	MDF, E3216, E3426, E3429
B002	Wood	Natural	Solid wood, E3216, E3426
B003	Wood	Natural	Plywood, E3216, E3426, E3429, E1114
B004	Bamboo	Natutal	E3427, E3429
B005	Coating	Black	On the wood, E3216
B006	Coating	White	On the wood, E3216, E3426
B007	Coating	Grey	On the wood, E3216, E3426
B008	Coating	Orange	On the wood, E3216, E3427
B009	Coating	Red	On the wood, E3216
B010	Coating	Brown	On the wood, E3216, E3427
B011	Coating	Multi-color	On the wood, E3216, E3427, E3429, E1114
B012	Coating	White	On the wood, E3216
B013	Plastic	Black	Handle, ABS, E3216
B014	Plastic	Black	Range hood, PP, E3216
B015	Plastic	Blue	Bottom, E3216
B016	Plastic	Transparent	Window, E3216, E3427
B018	Plastic	White	Valcro, E3216, E3426, E3429
B019	Textile	White	Valcro, E3216, E3426, E3429
B020	Plastic	Black	Pool, E3216
B021	Plastic	Black	Faucet, E3216
B022	Plastic	Grey	Edge, E3216
B023	Plastic	Beige	Edge, E3216
B024	Coating	Cyan	On the wood, E3216

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B025	Coating	Green	On the wood,E3216,E3429
B026	Coating	Pink-orange	On the wood,E3216
B027	Plastic	Brown-orange	Antenna,E3216
B028	Plastic	Pink-orange	Block,E3216
B029	Textile	White	Rope,E3216,E3429,E1114
B030	Rubber + Textile	White	Elastic rope,E3216,E3427,E3429
B031	Textile	White	Cotton rope,E3216
B032	Textile	Cyan	Felt,E3216,E1114
B033	Textile	Green	Felt,E3216,E3429
B034	Plastic	Orange	Ball,E3216,E3429
B035	Plastic	Grey	Connector,E3216,E3429
B036	Plastic	White	Ring,E3216
B037	Plastic	Cyan	Bottom,E3216
B038	Textile	Red	Boat,E3216
B039	Textile	Lt.red	Bag,E3216,E3429
B040	Textile	Green	Clothes,E3216
B041	Textile	Grey	Ear,E3216
B042	Plastic	Grey	Feet,E3216
B043	Textile	Brown	Book,E3216
B044	Coating	Dk.blue	On the wood,E3427
B045	Coating	Dk.grey	On the wood,E3427
B046	Coating	Yellow	On the wood,E3427,E3429
B047	Coating	Pink	On the wood,E3427
B048	Plastic	Lt.brown	Feet,E3247
B049	Plastic	Orange-brown	Sticker,E3427
B050	Textile	Black	Felt,E3427
B051	Textile	Orange	Rag,E3427
B052	Textile	Orange	Rope,E3427
B053	Textile	Orange	Felt,E3427
B054	Plastic	Lt.blue	Oar,E3427
B055	Textile	Multi-color	Felt,E3427
B056	Plastic	Yellow	Lamp,E3429

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B057	Plastic	Green	Kettle,E3429
B058	Coating	Lt.red	On the wood,E3429
B059	Plastic	Beige	Connector,E3429
B060	Plastic	Yellow	Feet,E3429
B061	Plastic	White	Pen,E1114
B062	Plastic	Black	Pen,E1114
B063	Ink	Black	Pen,E1114
B064	Textile	White	Pen,E1114
B065	Plastic	Red	Edge,E1114



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1. EN 71-1:2014+A1:2018 Mechanical and physical properties

Test No:	T001
Material No:	M005-M009
4. General requirements	
4.1 Material cleanliness	PASS
4.2 Assembly	PASS*1
4.7 Edges	PASS
4.8 Points and metallic wires	PASS
4.9 Protruding parts	PASS*2
4.10 Parts moving against each other	PASS*3
4.10.3 Hinges	PASS*3
4.16 Heavy immobile toys	PASS*3
4.20 Acoustics	PASS*4
4.22 Small balls	PASS*5
4.23 Magnets	PASS*3
6. Packaging	PASS*6
7. Warnings, markings and instructions for use	
7.1 General	PASS
7.2 Toys not intended for children under 36 months	PASS

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.

Remark:

- *1 This clause is applicable to M005, M006 and M008.
- *2 This clause is applicable to M005-M008.
- *3 This clause is applicable to M005.
- *4 This clause is applicable to M005 and M006.
- *5 This clause is applicable to M008.
- *6 This clause is applicable to M009.



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2. EN 71-1:2026 Mechanical and physical properties

Test No:	T001
Material No:	M005-M009
4. General requirements	
4.1 Material cleanliness	PASS
4.2 Assembly	PASS*1
4.7 Edges	PASS
4.8 Points and metallic wires	PASS
4.9 Protruding parts	PASS*2
4.10 Parts moving against each other	PASS*3
4.16 Heavy immobile toys	PASS*3
4.20 Acoustics	PASS*4
4.22 Small balls	PASS*5
4.23 Magnets	PASS*3
6. Packaging	PASS*6
7. Warnings, markings and instructions for use	
7.1 General	PASS
7.2 Toys not intended for children under 36 months	PASS

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.

Remark:

- *1 This clause is applicable to M005, M006 and M008.
- *2 This clause is applicable to M005-M008.
- *3 This clause is applicable to M005.
- *4 This clause is applicable to M005 and M006.
- *5 This clause is applicable to M008.
- *6 This clause is applicable to M009.



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3. 2009/48/EC CE Marking
Test result:

Test No:	T001
Material No:	M005-M009
CE-marking	PASS

4. 2009/48/EC Labeling Requirement (Importer/ Manufacturer Mark, Product Identification, Washing/ Cleaning instruction)
Test result:

Test No:	T001
Material No:	M005-M009
Importer/ Manufacturer Mark (European Company name and address)+	Present on package and product
Product Identification - type, batch, serial or model number+	Present on package and product

Remark:

+ These labeling shall be indicated on the toy, or where that is not possible, on its packaging or in a documents accompanying the toys.

The correct adherence to all requirements according to directive 2009/48/EC in regards to the marking (name or trademark and contact address of the manufacturer respectively the marking for identification [type, batch, model or serial no.]) of the toy can only be confirmed by the manufacturer, his delegate or the person who brings it onto the market. The marked article were assessed, however, they can not be evaluated in the frame of this test.



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5. EN 71-2:2020 Flammability**Test result:**

	Test No:	T001
	Material No.	M005-M009
4.1 General requirements		PASS

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.



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6. EN 71-2:2020+A1:2025 Flammability**Test result:**

	Test No:	T001
	Material No.	M005-M009
4.1 General requirements		PASS

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.



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7. EN 71-3:2019+A2:2024 Migration of certain elements

Test Method: with reference to EN 71-3:2019+A2:2024, analyzed by ICP-OES / ICP-MS / LC-ICP-MS/IC-UV/GC-MS.

2) For liquid or sticky toy materials:
Test Result:

Test No.				T062
Material No.				B063
Test Parameter	Unit	RL	Regulatory Requirement	Result
Aluminium (Al)	mg/kg	10	560	< RL
Antimony (Sb)	mg/kg	1	11.3	< RL
Arsenic (As)	mg/kg	0.5	0.9	< RL
Barium (Ba)	mg/kg	2.5	375	< RL
Boron (B)	mg/kg	10	300	< RL
Cadmium (Cd)	mg/kg	0.1	0.3	< RL
Chromium III (Cr(III))	mg/kg	1	9.4	< RL
Chromium VI (Cr(VI))	mg/kg	0.004	0.005	< RL
Cobalt (Co)	mg/kg	0.5	2.6	< RL
Copper (Cu)	mg/kg	2.5	156	< RL
Lead (Pb)	mg/kg	0.4	0.5	< RL
Manganese (Mn)	mg/kg	2.5	300	< RL
Mercury (Hg)	mg/kg	0.5	1.9	< RL
Nickel (Ni)	mg/kg	2.5	18.8	< RL
Selenium (Se)	mg/kg	2.5	9.4	< RL
Strontium (Sr)	mg/kg	2.5	1,125	< RL
Tin (Sn)	mg/kg	0.045	3,750	< RL
Organic Tin [^]	mg/kg	0.2	0.2	-
Zinc (Zn)	mg/kg	10	938	< RL
Mass of trace amount	mg	--	--	<100

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (0.05 mg/kg)



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3) For scraped-off toy materials:
Test Result:

Test No.				T001	T002	T003
Material No.				B001	B002	B003
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	6.3	4.7	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	50.1	25.1	2.6
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	5.7	< RL	9.1
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin^	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	15.9
Mass of trace amount	mg	--	--	-	-	-

Abbreviation:

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- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T004	T005	T006
Material No.				B004	B005	B006
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	12.8	84.6
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	14.3	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	10.0	5.3	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	29.6	4.5
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	39.2
Mass of trace amount	mg	--	--	-	-	<100

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Test Result:

Test No.				T007	T008	T009
Material No.				B007	B008	B009
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	153	217	-
Antimony (Sb)	mg/kg	5	560	< RL	< RL	-
Arsenic (As)	mg/kg	5	47	< RL	< RL	-
Barium (Ba)	mg/kg	2.5	18,750	4.1	11.4	-
Boron (B)	mg/kg	10	15,000	< RL	< RL	-
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	-
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	-
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	-
Cobalt (Co)	mg/kg	2.5	130	< RL	4.2	-
Copper (Cu)	mg/kg	2.5	7,700	2.8	2.7	-
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	-
Manganese (Mn)	mg/kg	2.5	15,000	10.8	26.0	-
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	-
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	-
Selenium (Se)	mg/kg	10	460	< RL	< RL	-
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	-
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	-
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	14.3	-
Mass of trace amount	mg	--	--	-	-	<10

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Test Result:

Test No.				T010	T011	T012
Material No.				B010	B011	B012
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	37.1	6570	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	11.9	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	2.8	11.9
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	7.1	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	20.2
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	1130	< RL
Mass of trace amount	mg	--	--	<100	-	-

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Test Result:

Test No.				T013	T014	T015
Material No.				B013	B014	B015
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation: < = less than
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Test Result:

Test No.				T016	T017	T018
Material No.				B016	B018	B019
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	<100	<100

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T019	T020	T021
Material No.				B020	B021	B022
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T022	T023	T024
Material No.				B023	B024	B025
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	123	21.9
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	5.0	3.4	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	4.0	< RL	6.2
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	20.8	3.5	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	20.2	14.4
Mass of trace amount	mg	--	--	-	-	-

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
 ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T025	T026	T027
Material No.				B026	B027	B028
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	67.7	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	12.4	< RL	< RL
Mass of trace amount	mg	--	--	<100	-	-

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T028	T029	T030
Material No.				B029	B030	B031
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	3.1	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	922	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T031	T032	T033
Material No.				B032	B033	B034
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	13.2	7.2	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T034	T035	T036
Material No.				B035	B036	B037
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	11.9
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	20.2
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
 ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T037	T038	T039
Material No.				B038	B039	B040
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	78.8	< RL
Antimony (Sb)	mg/kg	5	560	28.3	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	6.4
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	32.3	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	10.7	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
 ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T040	T041	T042
Material No.				B041	B042	B043
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	26.9
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	<100	-	-

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T043	T044	T045
Material No.				B044	B045	B046
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	42.2	130	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	1.2(*1)
Organic Tin [^]	mg/kg	0.2	12	-	-	<RL
Zinc (Zn)	mg/kg	10	46,000	< RL	12.1	21.4
Mass of trace amount	mg	--	--	-	<100	<100

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
 ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T046	T047	T048
Material No.				B047	B048	B049
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	242	< RL	48.5
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	8.6	< RL	2.9
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	2.6	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	22.2	< RL	34.5
Mass of trace amount	mg	--	--	<100	-	<100

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T049	T050	T051
Material No.				B050	B051	B052
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	18.4	< RL
Antimony (Sb)	mg/kg	5	560	41.9	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	6.5	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	2.6	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	2.9	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
 ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T052	T053	T054
Material No.				B053	B054	B055
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	15.3	< RL	44.0
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T055	T056	T057
Material No.				B056	B057	B058
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	30.2
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	<100

Abbreviation:

- < = less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- mg denotes milligram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T058	T059	T060
Material No.				B059	B060	B061
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal



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Test Result:

Test No.				T061	T063	T064
Material No.				B062	B064	B065
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	28,130	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	9.2	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL
Mass of trace amount	mg	--	--	-	-	-

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
 mg denotes milligram
 ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.2 mg/kg) or the components were confirmed to be pure metal

Remark:

- * Categorization of toys materials is based on the material texture. According to point H.11 of Annex H to EN 71-3:2019+A2:2024 / BS EN 71-3:2019+A2:2024, cosmetic materials with dry, brittle, powder like or pliable texture such as lipstick and eyeshadow are considered as category I materials. However, as a reminder, it cannot preclude the possibility that some national enforcement authorities might take a more stringent action to treat cosmetic materials as sticky and evaluate according to category II requirement as they are intended to be applied on skin and retained for long time.
- # According to EN 71-3:2019+A2:2024, if the weight of a test portion of toy material is less than 10mg, the analysis of migration of certain elements would not be required. If the weight of a test portion of toy material is between 10mg and 100mg, the analytical results would be calculated as though 100mg of the test portion had been used.
- *1 Confirmation of Organic tin content has been performed. Result can refer to subsequent page(s) for details.



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Organic tin content
Test Method: EN 71-3:2019+A2:2024, analyzed by GC-MS

		Test No.	T045
		Material No.	B046
Test Parameter	Unit	RL	Result
MeT (Methyltin cation)	mg/kg	0.2	< RL
DMT (Dimethyltin Cation)	mg/kg	0.2	< RL
BuT (Butyltin cation)	mg/kg	0.2	< RL
DBT (Dibutyltin cation)	mg/kg	0.2	< RL
TBT (Tributyltin cation)	mg/kg	0.2	< RL
TeBT (Tetrabutyltin cation)	mg/kg	0.2	< RL
MOT (Monooctyltin cation)	mg/kg	0.2	< RL
DOT (Dioctyltin cation)	mg/kg	0.2	< RL
DProT (Dipropyltin cation)	mg/kg	0.2	< RL
TcyT (Tricyclohexyltin cation)	mg/kg	0.2	< RL
DPhT (Diphenyltin cation)	mg/kg	0.2	< RL
TPhT (Triphenyltin cation)	mg/kg	0.2	< RL
Sum of Organic tin cations	mg/kg	NA	<RL
Category	NA	NA	3
Limit	mg/kg	NA	12

Remark:

- * According to Annex G of EN 71-3:2019+A2:2024, the sum of migration of organic tin shall not exceed the migration limits as below:

Category	Category I	Category II	Category III
Scope	Dry, brittle, powder-like or pliable toy materials	Liquid or sticky toy materials	Scraped-off toy materials
Limit	0.9mg/kg	0.2mg/kg	12mg/kg



Sample Photos



E1114



E1114



E3216



E3216



E3426



E3426



Sample Photos



E3427



E3427



E3429



E3429

- END -



General Terms and Conditions of Business of TÜV Rheinland in Greater China

The decision of the relevant arbitration tribunal shall be final and binding on both parties. The arbitration fee shall be borne by the losing party.