



Test Report

Date : 2025-02-21
No. : HP25020173

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Applicant : Yoshiritsu Co., Ltd.
1563 Koshibe, Oyodo Yoshino, Nara 638-0803 Japan

Attn: Akie Kawai

Description of Samples : Four styles of submitted sample each in two sets said to be :
(A) LaQ Basic 200 STARTER SET
JAN Code: 4952907009081
(B) LaQ Hamacron Constructor SHIPS
JAN Code: 4952907009050
(C) LaQ Marine World MINI BLUE CRYSTAL DOLPHIN
JAN Code: 4952907009173
(D) LaQ Marine World JAPANESE SPIDER CRAB
JAN Code: 4952907009067
Labelled Age Grading : Age 5 years and up
Appropriate Age Grade : Age 5 years and up
Client's Requested Age Grading : Age 5 years and up
Tested Age Grade : Age 5 years and up
Country of Origin : Japan

Date Samples Received : 2025-02-12, 2025-02-20 and 2025-02-21

Date Tested : 2025-02-12 to 2025-02-21

Description of Parts : **Name of Parts:**
LaQ RED No.1-7
LaQ BLUE No.1-7
LaQ YELLOW No.1-7
LaQ GREEN No.1-7
LaQ PINK No.1-7
LaQ SKY BLUE No.1-7
LaQ ORANGE No.1-7
LaQ LIME No.1-7
LaQ WHITE No.1-7
LaQ BLACK No.1-7
LaQ BROWN No.1-7
LaQ GRAY No.1-7

CHOW Ming-yeung, Edmond
Authorized Signatory

KWOK Sze-ying, Erica
Authorized Signatory



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Description of Samples : **Name of Parts:**
LaQ LAVENDER No.1-7
LaQ CLEAR No.1-7
LaQ CLEAR RED No.1-7
LaQ CLEAR BLUE No.1-7
LaQ CLEAR YELLOW No.1-7
LaQ JEWEL PINK No.1 and No.2
LaQ JEWEL AQUA No.1 and No.2
LaQ JEWEL EMERALD No.1 and No.2
LaQ CLEAR EMERALD No.1 and No.2
LaQ CLEAR PINK No.1 and No.2
LaQ CLEAR AQUA No.1 and No.2
LaQ CLEAR ORANGE No.1 and No.2
LaQ CLEAR LIME No.1 and No.2
LaQ CLEAR PURPLE No.1 and No.2
LaQ Parts Glow-in-the-dark parts No.1 and No.2
LaQ HEADBAND PART
LaQ HAMACRON CONSTRUCTOR WHEEL
LaQ HAMACRON CONSTRUCTOR SHAFT
LaQ HAMACRON CONTRSUCTOR MIDDLE SIZE WHEEL
LaQ HAMACRON CONSTRUCTOR LONG SHAFT
LaQ HAMACRON CONSTRUCTOR MINI WHEEL
LaQ HAMACRON CONSTRUCTOR MINI SHAFT
LaQ HAMACRON CONSTRUCTOR PULL BACK
LaQ BALL JOINT A and B
LaQ Hexa Joint Part
LaQ CROSS PART RED, YELLOW, WHITE, BLACK
LaQ PAX RED No.1 and No. 2
LaQ PAX YELLOW No.1 and No. 2
LaQ PAX BLUE No.1 and No. 2
LaQ PAX GREEN No.1 and No. 2
LaQ PARTS REMOVER
LaQ BLISTER CASE BLUE
LaQ BLISTER CASE PINK
LaQ PLASTIC CONTAINER (SMALL)
LaQ PLASTIC CONTAINER (LARGE)
LaQ CASE WHITE (X-SMALL)
LaQ CASE WHITE (SMALL)
LaQ CASE WHITE (LARGE)

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Test Requested	Test Item	Result
:	I. EN71 : Part 1 : 2014 + A1 : 2018 - Physical and Mechanical Properties	Passed
	II. EN71 : Part 2 : 2020 - Flammability test	Passed
	III. EN 71-3:2019+A1:2021 - Migration of certain elements (Aluminium, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium (III), Chromium (VI), Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Strontium, Tin, Organic Tin and Zinc).	Passed
	IV. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council, Annex XVII, Entry 23 and its amendment Regulation (EU) No. 494/2011 and No. 835/2012 - Cadmium content (formerly Directive 91/338/EEC)	Passed
	V. European Regulation (EU) No. 1907/2006(REACH) Annex XVII Entry 51 & 52 and its amendment Commission Regulation (EU) 2018/2005 — Phthalate content.	Passed
	VI. ASTM F963-23 - Physical and Mechanical Tests	Passed
	- Flammability Test	Passed
	- Heavy Elements Test (Clause 4.3.5)	Passed
	- Phthalates content	Passed
	VII. Lead content in accordance with U.S. Consumer Product Safety Improvement Act of 2008 - Sec. 101 : Children's Products Containing Lead; Lead Paint Rule	Passed
	VIII. Phthalates content as required by section 108, USA Consumer Product Safety Improvement Act and 16 CFR 1307 and 15 U.S. Code § 2057c.	Passed

CHOW Ming-yeung, Edmond
Authorized Signatory

KWOK Sze-ying, Erica
Authorized Signatory

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	<u>Test Item</u>	<u>Result</u>
Test Requested	: IX. Total lead content in accordance with California Proposition 65.	Passed
	X. Phthalates content in accordance with California Proposition 65.	Passed
Test Result	: Refer to the result pages for details.	

A handwritten signature in black ink, appearing to be 'Edmond'.

CHOW Ming-yeung, Edmond
Authorized Signatory

A handwritten signature in black ink, appearing to be 'Erica'.

KWOK Sze-ying, Erica
Authorized Signatory

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Test Results :

I. EN71-1 : 2014 + A1 : 2018

<u>Applicable clause</u>	<u>Description</u>	<u>Result</u>
4	<u>General requirements</u>	
4.1	Material cleanliness	Pass
4.2	Assembly	Pass
4.7	Edges	Pass
4.8	Points and metallic wires	Pass
6	Packaging	Pass
7	<u>Warnings, markings and instructions for use</u>	*1
7.1	General	Pass
7.2	Toys not intended for children under 36 months	Pass

*1 = The manufacturer or his authorized representative or the importer into the community shall in a visible, easily legible and indelible form affix his name and/or trade name and/or mark and address on the toy or on its packaging.

Note: For numerical result with upper[lower] limit, compliance is deemed to occur if the measured result is under[above] the upper[lower] limit, even when extended upwards [downwards] by the expanded uncertainty with 95% coverage probability.

II. EN71-2 : 2020

<u>Applicable clause</u>	<u>Title/Description</u>	<u>Result</u>
4.1	General requirements	Pass

Note : No cellulose nitrate and material with same behaviour in fire was detected.

Note: For numerical result with upper[lower] limit, compliance is deemed to occur if the measured result is under[above] the upper[lower] limit, even when extended upwards [downwards] by the expanded uncertainty with 95% coverage probability.



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III. EN 71-3:2019+A1:2021

Test Method: Heavy element analysis was determined by Inductively Coupled Plasma Spectrometry (ICP-OES) and/or Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and/or Gas Chromatography Mass Spectrometry (GCMS).

Category III – Scraped-off toy material

Element	Migration limit (mg/kg)	Result (mg/kg)					
		Sample					
		1	2	3	4	5	6
Aluminium (Al)	28130	ND	ND	ND	ND	ND	ND
Antimony (Sb)	560	ND	ND	ND	ND	ND	ND
Arsenic (As)	47	ND	ND	ND	ND	ND	ND
Barium (Ba)	18,750	ND	ND	ND	ND	ND	ND
Boron (B)	15,000	ND	ND	ND	ND	ND	ND
Cadmium (Cd)	17	ND	ND	ND	ND	ND	ND
Chromium (III)	460	BL	BL	BL	BL	BL	BL
Chromium (VI)	0.053	BL	BL	BL	BL	BL	BL
Cobalt (Co)	130	ND	ND	ND	ND	ND	ND
Copper (Cu)	7,700	ND	ND	ND	ND	ND	ND
Lead (Pb)	23	ND	ND	ND	ND	ND	ND
Manganese (Mn)	15,000	ND	ND	ND	ND	ND	ND
Mercury (Hg)	94	ND	ND	ND	ND	ND	ND
Nickel (Ni)	930	ND	ND	ND	ND	ND	ND
Selenium (Se)	460	ND	ND	ND	ND	ND	ND
Strontium (Sr)	56,000	ND	ND	ND	ND	ND	ND
Tin (Sn)	180,000	ND	0.2	ND	ND	ND	ND
Organic tin [#]	12	ND	0.54	ND	ND	ND	ND
Zinc (Zn)	46,000	ND	ND	ND	ND	ND	ND

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III. EN 71-3:2019+A1:2021

Test Method: Heavy element analysis was determined by Inductively Coupled Plasma Spectrometry (ICP-OES) and/or Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and/or Gas Chromatography Mass Spectrometry (GCMS).

Category III – Scraped-off toy material

Element	Migration limit (mg/kg)	Result (mg/kg)					
		Sample					
		7	8	9	10	11	12
Aluminium (Al)	28130	ND	ND	ND	ND	ND	ND
Antimony (Sb)	560	ND	ND	ND	ND	ND	ND
Arsenic (As)	47	ND	ND	ND	ND	ND	ND
Barium (Ba)	18,750	ND	ND	ND	ND	ND	ND
Boron (B)	15,000	ND	ND	ND	ND	ND	ND
Cadmium (Cd)	17	ND	ND	ND	ND	ND	ND
Chromium (III)	460	BL	BL	BL	BL	BL	BL
Chromium (VI)	0.053	BL	BL	BL	BL	BL	BL
Cobalt (Co)	130	ND	ND	ND	ND	ND	ND
Copper (Cu)	7,700	ND	ND	ND	ND	ND	ND
Lead (Pb)	23	ND	ND	ND	ND	ND	ND
Manganese (Mn)	15,000	ND	ND	ND	ND	ND	ND
Mercury (Hg)	94	ND	ND	ND	ND	ND	ND
Nickel (Ni)	930	ND	ND	ND	ND	ND	ND
Selenium (Se)	460	ND	ND	ND	ND	ND	ND
Strontium (Sr)	56,000	ND	ND	ND	ND	ND	ND
Tin (Sn)	180,000	ND	ND	ND	ND	ND	ND
Organic tin [#]	12	ND	ND	ND	ND	ND	ND
Zinc (Zn)	46,000	ND	ND	ND	15	ND	ND

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III. EN 71-3:2019+A1:2021

Test Method: Heavy element analysis was determined by Inductively Coupled Plasma Spectrometry (ICP-OES) and/or Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and/or Gas Chromatography Mass Spectrometry (GCMS).

Category III – Scraped-off toy material

Element	Migration limit (mg/kg)	Result (mg/kg)					
		Sample					
		13	14	15	16	17	18
Aluminium (Al)	28130	ND	ND	ND	ND	ND	ND
Antimony (Sb)	560	ND	ND	ND	ND	ND	ND
Arsenic (As)	47	ND	ND	ND	ND	ND	ND
Barium (Ba)	18,750	ND	ND	ND	ND	ND	ND
Boron (B)	15,000	ND	ND	ND	ND	ND	ND
Cadmium (Cd)	17	ND	ND	ND	ND	ND	ND
Chromium (III)	460	BL	BL	BL	BL	BL	BL
Chromium (VI)	0.053	BL	BL	BL	BL	BL	BL
Cobalt (Co)	130	ND	ND	ND	ND	ND	ND
Copper (Cu)	7,700	ND	ND	ND	ND	ND	ND
Lead (Pb)	23	ND	ND	ND	ND	ND	ND
Manganese (Mn)	15,000	ND	ND	ND	ND	ND	ND
Mercury (Hg)	94	ND	ND	ND	ND	ND	ND
Nickel (Ni)	930	ND	ND	ND	ND	ND	ND
Selenium (Se)	460	ND	ND	ND	ND	ND	ND
Strontium (Sr)	56,000	ND	ND	ND	ND	ND	ND
Tin (Sn)	180,000	ND	ND	ND	ND	ND	ND
Organic tin [#]	12	ND	ND	ND	ND	ND	ND
Zinc (Zn)	46,000	ND	ND	8	ND	ND	ND

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III. EN 71-3:2019+A1:2021

Test Method: Heavy element analysis was determined by Inductively Coupled Plasma Spectrometry (ICP-OES) and/or Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and/or Gas Chromatography Mass Spectrometry (GCMS).

Category III – Scraped-off toy material

Element	Migration limit (mg/kg)	Result (mg/kg)
		Sample
		19
Aluminium (Al)	28130	ND
Antimony (Sb)	560	ND
Arsenic (As)	47	ND
Barium (Ba)	18,750	ND
Boron (B)	15,000	ND
Cadmium (Cd)	17	ND
Chromium (III)	460	BL
Chromium (VI)	0.053	BL
Cobalt (Co)	130	ND
Copper (Cu)	7,700	ND
Lead (Pb)	23	ND
Manganese (Mn)	15,000	ND
Mercury (Hg)	94	ND
Nickel (Ni)	930	ND
Selenium (Se)	460	ND
Strontium (Sr)	56,000	ND
Tin (Sn)	180,000	ND
Organic tin [#]	12	ND
Zinc (Zn)	46,000	ND

- Note :
- All results are in mg/kg
 - < denotes less than
 - ≥ denotes greater than or equal to
 - For samples of migrated chromium content lower than migration limit of chromium (VI), no speciation test for chromium (III) and chromium (VI) were conducted. The results were derived from that of total chromium.
 - For samples of migrated tin content calculated as tributyl tin lower than migration limit of organic tin, no organic tin test was conducted. Organic tin results were derived from that of total tin.
 - ND = Not detected
 - BL = Below Limit

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For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

III. EN 71-3:2019+A1:2021

Category III – Scraped-off toy material

Sample	Description	Sample weight
1* ²	Parts : red ABS	≥100 mg
2* ²	Parts : blue ABS	≥100 mg
3* ²	Parts : red POM	≥100 mg
4* ²	Parts : blue POM	≥100 mg
5* ²	Parts : green POM	≥100 mg
6* ²	Parts : white POM	≥100 mg
7* ²	Parts : orange ABS	≥100 mg
8* ²	Parts : white ABS	≥100 mg
9* ²	Tire : black PE	≥100 mg
10* ²	Parts : clear blue PMMA	≥100 mg
11* ²	Parts : sky blue POM	≥100 mg
12	Parts : yellow ABS	≥100 mg
13	Parts : green ABS	≥100 mg
14	Parts : yellow POM	≥100 mg
15	Parts : black POM	≥100 mg
16	Parts : black ABS	≥100 mg
17	Parts : orange POM	≥100 mg
18	Parts : clear blue PC	≥100 mg
19	Parts : sky blue ABS	≥100 mg

Note :

- The samples with sample weight less than 100 mg, were assumed to be 100 mg in calculation (except glass/ceramic/metallic materials).

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- IV. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council, Annex XVII, Entry 23 and its amendment Regulation (EU) No. 494/2011 and No. 835/2012 Cadmium content (formerly Directive 91/338/EEC). (in composite condition)

Test Method: Acid digestion followed by Atomic Absorption Spectrophotometry and/or Inductively Coupled Plasma Spectrometry (ICP-OES) analysis.

	Test item
	Total Cadmium
Maximum permissible level (mg/kg)	100
Sample	
1,2,3 [#]	<10
4,5,6 [#]	<10
7,8,9 [#]	<10
10,11,12 [#]	<10
13,14,15 [#]	<10
16,17,18 [#]	<10
19	<10

- Note :
- All results are in mg/kg
 - \leq denotes less than
 - [#] denotes composite sample. The results for composite sample are calculated based on the component with the least weight.
 - For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

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- IV. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council, Annex XVII, Entry 23 and its amendment Regulation (EU) No. 494/2011 and No. 835/2012
- Cadmium content (formerly Directive 91/338/EEC).

Test Method: Acid digestion followed by Atomic Absorption Spectrophotometry and/or Inductively Coupled Plasma Spectrometry (ICP-OES) analysis.

Sample	Description
1*2	Parts : red ABS
2*2	Parts : blue ABS
3*2	Parts : red POM
4*2	Parts : blue POM
5*2	Parts : green POM
6*2	Parts : white POM
7*2	Parts : orange ABS
8*2	Parts : white ABS
9*2	Tire : black PE
10*2	Parts : clear blue PMMA
11*2	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS

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- V. European Regulation (EU) No. 1907/2006(REACH) Annex XVII Entry 51 & 52 and its amendment Commission Regulation (EU) 2018/2005 – Phthalate content.
(in composite condition)

Test Method: Phthalate analysis was determined by Gas Chromatography.

Sample	Phthalates content, %(w/w)						
	DBP	BBP	DEHP	DIBP	DNOP	DINP	DIDP
1,2,3 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4,5,6 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7,8,9 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10,11,12 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
13,14,15 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
16,17,18 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Limit	Individually or in any combination of the DBP, BBP DEHP and DIBP shall not be equal to or greater than 0.1% by mass of the plasticised material.				The cumulative total of DNOP, DINP and DIDP shall not be greater than 0.1% by mass of the plasticised material.		

Remark:

- DBP = Di-n-butyl phthalate
- BBP = Benzyl-n-butyl phthalate
- DEHP = Di (2-ethylhexyl) phthalate
- DIBP = Diisobutyl phthalate
- DNOP = Di-n-octyl phthalate
- DINP = Diisononyl phthalate
- DIDP = Diisodecyl phthalate
- %(w/w) = percentage weight per weight
- Method detection limit = 0.01%(w/w)
- The requirements of DNOP, DINP and DIDP are only applicable on tested material which can be placed in the mouth by children.
- For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

- Note :**
- All results are in % w/w
 - % w/w denotes percentage by weight
 - < denotes less than
 - [#] denotes composite sample. The results for composite sample are calculated based on the component with the least weight.

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- V. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council,
Annex XVII
- Phthalates contents (formerly Directive 2005/84/EC)

Test Method: Phthalate analysis was determined by Gas Chromatography.

Sample	Description
1*2	Parts : red ABS
2*2	Parts : blue ABS
3*2	Parts : red POM
4*2	Parts : blue POM
5*2	Parts : green POM
6*2	Parts : white POM
7*2	Parts : orange ABS
8*2	Parts : white ABS
9*2	Tire : black PE
10*2	Parts : clear blue PMMA
11*2	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS

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VI. ASTM F963-23

a. Physical and Mechanical Tests

<u>Applicable clause</u>	<u>Description</u>	<u>Result</u>
4.1	Material Quality – Visual Inspection	Pass
4.2	Flammability	Pass
4.3	Toxicology	Pass
4.6	Small objects	Pass
4.7	Accessible edges	Pass
	16 CFR 1500.49 Sharp metal or glass edges	
4.9	Accessible points	Pass
	16 CFR 1500.48 Sharp points	
4.12	Plastic film	Pass
5	<u>Labeling requirements</u>	
5.1	Federal; government requirements	Pass
5.2	Age grading labeling	Pass
5.3	Safety labeling requirements	Pass
5.11	Small objects, small balls, marbles and balloons	Pass
7	<u>Producer's markings</u>	
7.1	Producer's markings	Pass

Remark : The sample(s) were subjected to the normal use and abuse tests in according with Clause 8.5 Normal Use Testing, 8.7 Impact test, 8.8 Torque test, 8.9 Tension test, 8.10 Compression test and 8.12 Flexure test whichever was applicable.

Use and abuse test criteria:

Note: For numerical result with upper[lower] limit, compliance is deemed to occur if the measured result is under[above] the upper[lower] limit, even when extended upwards [downwards] by the expanded uncertainty with 95% coverage probability.

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Test	Age Category, months	Test Parameters	16 CFR Reference
Drop test	0 to 18	10 x 4.5 ft	1500.51(b)(3)
	over 18 to 36	4 x 3 ft	1500.52(b)(3)
	over 36 to 96	4 x 3 ft	1500.53(b)(3)
Tip over test	-	3 times	1500.51/52/53 (b)(4)
Tumble test	-	2 x 4 attitudes	-
Steel ball impact test	-	50 inches	-
Torque test	0 to 18	2 in-lbf	1500.51(e)
	over 18 to 36	3 in-lbf	1500.52(e)
	over 36 to 96	4 in-lbf	1500.53(e)
Tension test	0 to 18	10 lbf	1500.51(f)
	over 18 to 36	15 lbf	1500.52(f)
	over 36 to 96	15 lbf	1500.53(f)
Compression test	0 to 18	20 lbf	1500.51(g)
	over 18 to 36	25 lbf	1500.52(g)
	over 36 to 96	30 lbf	1500.53(g)
Flexure test	0 to 18	120 x 30 cycles (10 lbf)	1500.51(d)
	over 18 to 36	120 x 30 cycles (15 lbf)	1500.52(d)
	over 36 to 96	120 x 30 cycles (15 lbf)	1500.53(d)

b. Flammability Test

<u>Applicable</u> <u>clause</u>	<u>Description</u>	<u>Result</u>
4.2	Flammability Materials other than textiles (16 CFR 1500.3 (c) (6) (vi)) Test method : Annex A5 (16 CFR 1500.44)	Pass

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VI. ASTM F963-23

Heavy element

Ref.: ASTM F963-23 Section 4.3.5

Method: ASTM F963-23 Section 8.3

Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

For materials and substrate

	Test Item
	Total Lead
Permissible Limit (ppm)	100
Sample	
1,2,3 [#]	<10
4,5,6 [#]	<10
7,8,9 [#]	<10
10,11,12 [#]	<10
13,14,15 [#]	<10
16,17,18 [#]	<10
19	<10

Note :

- All results are in ppm
- < denotes less than
- [#] denotes composite sample. The results for composite sample are calculated based on the component with the least weight.
- For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

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VI. ASTM F963-23

Heavy element

Ref.: ASTM F963-23 Section 4.3.5

Method: ASTM F963-23 Section 8.3

Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Sample	Description
1*2	Parts : red ABS
2*2	Parts : blue ABS
3*2	Parts : red POM
4*2	Parts : blue POM
5*2	Parts : green POM
6*2	Parts : white POM
7*2	Parts : orange ABS
8*2	Parts : white ABS
9*2	Tire : black PE
10*2	Parts : clear blue PMMA
11*2	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS

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VI. ASTM F963-23

Heavy element

Ref.: ASTM F963-23 Section 4.3.5

Method: ASTM F963-23 Section 8.3

Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

	Test Item							
	As	Hg	Se	Cd	Sb	Pb	Cr	Ba
Maximum Permissible Level (ppm)	25	60	500	75	60	90	60	1000
Sample								
1	<2	<2	<2	<2	<2	<2	<2	<2
2	<2	<2	<2	<2	<2	<2	<2	<2
3	<2	<2	<2	<2	<2	<2	<2	<2
4	<2	<2	<2	<2	<2	<2	<2	<2
5	<2	<2	<2	<2	<2	<2	<2	<2
6	<2	<2	<2	<2	<2	<2	<2	<2
7	<2	<2	<2	<2	<2	<2	<2	<2
8	<2	<2	<2	<2	<2	<2	<2	<2
9	<2	<2	<2	<2	<2	<2	<2	<2
10	<2	<2	<2	<2	<2	<2	<2	<2
11	<2	<2	<2	<2	<2	<2	<2	<2
12	<2	<2	<2	<2	<2	<2	<2	<2
13	<2	<2	<2	<2	<2	<2	<2	<2
14	<2	<2	<2	<2	<2	<2	<2	<2
15	<2	<2	<2	<2	<2	<2	<2	<2
16	<2	<2	<2	<2	<2	<2	<2	<2
17	<2	<2	<2	<2	<2	<2	<2	<2
18	<2	<2	<2	<2	<2	<2	<2	<2
19	<2	<2	<2	<2	<2	<2	<2	<2

- Note :
- All results are in ppm
 - ppm denotes part per million by weight
 - < denotes less than
 - ≥ denotes greater than or equal to
 - As = Arsenic; Hg = Mercury; Se = Selenium; Cd = Cadmium; Sb = Antimony; Pb = Lead; Cr = Chromium; Ba = Barium
 - For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

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VI. ASTM F963-23

Heavy element

Ref.: ASTM F963-23 Section 4.3.5

Method: ASTM F963-23 Section 8.3

Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Sample	Description	Sample weight
1* ²	Parts : red ABS	≥100 mg
2* ²	Parts : blue ABS	≥100 mg
3* ²	Parts : red POM	≥100 mg
4* ²	Parts : blue POM	≥100 mg
5* ²	Parts : green POM	≥100 mg
6* ²	Parts : white POM	≥100 mg
7* ²	Parts : orange ABS	≥100 mg
8* ²	Parts : white ABS	≥100 mg
9* ²	Tire : black PE	≥100 mg
10* ²	Parts : clear blue PMMA	≥100 mg
11* ²	Parts : sky blue POM	≥100 mg
12	Parts : yellow ABS	≥100 mg
13	Parts : green ABS	≥100 mg
14	Parts : yellow POM	≥100 mg
15	Parts : black POM	≥100 mg
16	Parts : black ABS	≥100 mg
17	Parts : orange POM	≥100 mg
18	Parts : clear blue PC	≥100 mg
19	Parts : sky blue ABS	≥100 mg

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VI. ASTM F963-23

Phthalates content (in composite condition)

Ref.: ASTM F963-23 Section 4.3.8, CPSIA Sec. 108 & 16 CFR 1307 and 15 U.S.

Code § 2057c.

Test method: CPSC-CH-C1001-09.4 by Gas Chromatography with Mass Selective Detector

Sample	Phthalates content, %(w/w)							
	DBP	BBP	DEHP	DINP	DHEXP	DIBP	DPENP	DCHP
1,2,3 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4,5,6 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7,8,9 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10,11,12 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
13,14,15 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
16,17,18 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Remark:

- DBP = Di-n-butyl phthalate
- BBP = Benzyl-n-butyl phthalate
- DEHP = Di (2-ethylhexyl) phthalate
- DINP = Diisononyl phthalate
- DHEXP = Di-n-hexyl phthalate
- DIBP = Diisobutyl phthalate
- DPENP = Di-n-pentyl phthalate
- DCHP = Dicyclohexyl phthalate
- %(w/w) = percentage weight per weight
- For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

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VI. ASTM F963-23

Phthalates content

Ref.: ASTM F963-23 Section 4.3.8, CPSIA Sec. 108 & 16 CFR 1307 and 15 U.S. Code § 2057c.

Test method: CPSC-CH-C1001-09.4 by Gas Chromatography with Mass Selective Detector

Sample	Description
1* ²	Parts : red ABS
2* ²	Parts : blue ABS
3* ²	Parts : red POM
4* ²	Parts : blue POM
5* ²	Parts : green POM
6* ²	Parts : white POM
7* ²	Parts : orange ABS
8* ²	Parts : white ABS
9* ²	Tire : black PE
10* ²	Parts : clear blue PMMA
11* ²	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS

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- VII. Children's products containing lead - Total lead content in substrate
(in composite condition)
Ref.: CPSIA Sec 101(a) and 15 U.S. Code § 1278a.
Test method: Standard operation procedure for determining total lead (Pb) in non-metal children's products, CPSC-CH-E1002-08.3
Test method: Standard operation procedure for determining total lead (Pb) in metal children's products, CPSC-CH-E1001-08.3
Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

For materials and substrate

	Test Item
	Total Lead
Permissible Limit (mg/kg)	100
Sample	
1,2,3 [#]	<10
4,5,6 [#]	<10
7,8,9 [#]	<10
10,11,12 [#]	<10
13,14,15 [#]	<10
16,17,18 [#]	<10
19	<10

- Note :
- All results are in mg/kg
 - < denotes less than
 - [#] denotes composite sample. The results for composite sample are calculated based on the component with the least weight.
 - For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.



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- VII. Children's products containing lead - Total lead content in substrate
Ref.: CPSIA Sec 101(a) and 15 U.S. Code § 1278a.
Test method: Standard operation procedure for determining total lead (Pb) in non-metal children's products, CPSC-CH-E1002-08.3
Test method: Standard operation procedure for determining total lead (Pb) in metal children's products, CPSC-CH-E1001-08.3
Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Sample	Description
1*2	Parts : red ABS
2*2	Parts : blue ABS
3*2	Parts : red POM
4*2	Parts : blue POM
5*2	Parts : green POM
6*2	Parts : white POM
7*2	Parts : orange ABS
8*2	Parts : white ABS
9*2	Tire : black PE
10*2	Parts : clear blue PMMA
11*2	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS



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VIII. Phthalates content (in composite condition)
Ref.: CPSIA Sec. 108 & 16 CFR 1307 and 15 U.S. Code § 2057c.
Test method: CPSC-CH-C1001-09.4 by Gas Chromatography with Mass Selective Detector

Sample No.	Phthalates content, %(w/w)									
	DBP	BBP	DEHP	DINP	DHEXP	DIBP	DPENP	DCHP	DNOP	DIDP
1,2,3 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4,5,6 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7,8,9 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10,11,12 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
13,14,15 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
16,17,18 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	See Note	

Remark:

- DBP = Di-n-butyl phthalate
- BBP = Benzyl-n-butyl phthalate
- DEHP = Di (2-ethylhexyl) phthalate
- DNOP = Di-n-octyl phthalate
- DINP = Diisononyl phthalate
- DIDP = Diisodecyl phthalate
- DHEXP = Di-n-hexyl phthalate
- DIBP = Diisobutyl phthalate
- DPENP = Di-n-pentyl phthalate
- DCHP = Dicyclohexyl phthalate
- %(w/w) = percentage weight per weight

Note : The results of DNOP and DIDP are for reference only.

- Note :
- All results are in % w/w
 - % w/w denotes percentage by weight
 - < denotes less than
 - [#] denotes composite sample. The results for composite sample are calculated based on the component with the least weight
 - For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

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VIII. Phthalates content

Ref.: CPSIA Sec. 108 & 16 CFR 1307 and 15 U.S. Code § 2057c.

Test method: CPSC-CH-C1001-09.4 by Gas Chromatography with Mass Selective Detector

Sample	Description
1*2	Parts : red ABS
2*2	Parts : blue ABS
3*2	Parts : red POM
4*2	Parts : blue POM
5*2	Parts : green POM
6*2	Parts : white POM
7*2	Parts : orange ABS
8*2	Parts : white ABS
9*2	Tire : black PE
10*2	Parts : clear blue PMMA
11*2	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS

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- IX. California Proposition 65: Lead content (in composite condition)
Ref.: Proposition 65 list of chemicals.
Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

For materials and substrate

	Test Item
	Total Lead
Permissible Limit (mg/kg)	100
Sample	
1,2,3 [#]	<10
4,5,6 [#]	<10
7,8,9 [#]	<10
10,11,12 [#]	<10
13,14,15 [#]	<10
16,17,18 [#]	<10
19	<10

- Note :
- All results are in mg/kg
 - < denotes less than
 - [#] denotes composite sample. The results for composite sample are calculated based on the component with the least weight.
 - For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.



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IX. California Proposition 65: Lead content

Ref.: Proposition 65 list of chemicals.

Determined by: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Sample	Description
1*2	Parts : red ABS
2*2	Parts : blue ABS
3*2	Parts : red POM
4*2	Parts : blue POM
5*2	Parts : green POM
6*2	Parts : white POM
7*2	Parts : orange ABS
8*2	Parts : white ABS
9*2	Tire : black PE
10*2	Parts : clear blue PMMA
11*2	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS

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- X. California Proposition 65: Phthalates content (in composite condition)
Ref.: Proposition 65 list of chemicals.
Determined by: Gas Chromatography Mass Spectrometer

Sample No.	Phthalates content, %(w/w)					
	DBP	BBP	DEHP	DNHP	DINP	DIDP
1,2,3 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4,5,6 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7,8,9 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10,11,12 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
13,14,15 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
16,17,18 [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Limit	0.1	0.1	0.1	0.1	0.1	0.1

Remark:

- Method detection limit = 0.01%(w/w)
- %(w/w) = percentage weight per weigh
- The above limit was quoted from the requirement stated in Alameda Superior Court, BG-07-350969.
- DBP = Di-n-butyl phthalate
- BBP = Benzyl-n-butyl phthalate
- DEHP = Di (2-ethylhexyl) phthalate
- DNHP = Di-n-hexyl phthalate
- DINP = Diisononyl phthalate
- DIDP = Diisodecyl phthalate
- For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

- Note :
- All results are in % w/w
 - % w/w denotes percentage by weight
 - < denotes less than
 - [#] denotes composite sample. The results for composite sample are calculated based on the component with the least weight
 - For specification with upper limit, compliance is deemed to occur if the measured result is under the limit, even extended upwards by the expanded uncertainty with 95% coverage probability.

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- X. California Proposition 65: Phthalates content
Ref.: Proposition 65 list of chemicals.
Determined by: Gas Chromatography Mass Spectrometer

Sample	Description
1* ²	Parts : red ABS
2* ²	Parts : blue ABS
3* ²	Parts : red POM
4* ²	Parts : blue POM
5* ²	Parts : green POM
6* ²	Parts : white POM
7* ²	Parts : orange ABS
8* ²	Parts : white ABS
9* ²	Tire : black PE
10* ²	Parts : clear blue PMMA
11* ²	Parts : sky blue POM
12	Parts : yellow ABS
13	Parts : green ABS
14	Parts : yellow POM
15	Parts : black POM
16	Parts : black ABS
17	Parts : orange POM
18	Parts : clear blue PC
19	Parts : sky blue ABS

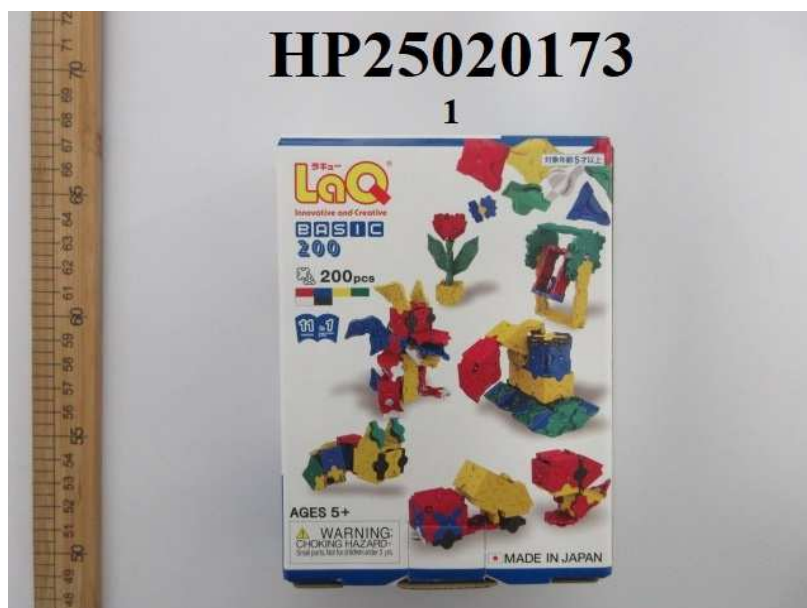
*² = The test results were referred from our Test Report No. HP24100415 issued on 2024-10-29.

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Appendix for Photos of the Submitted Sample



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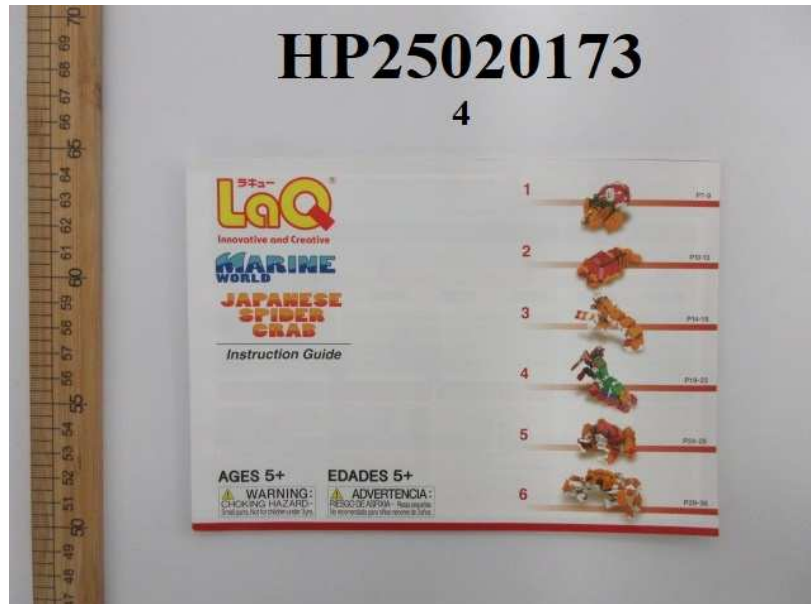
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***** End of Test Report *****

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