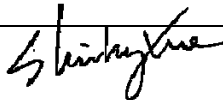



Technical Report		Page 1 of 17
Testing Laboratory Product Safety		
Test Report No.	HZP1212034/01	
Applicant:	Ningbo Bohai I/E Co., Ltd. RM. B 1302, 13F., Jiahui Int'l Trade Center, No. 1, Lane 28, Bai Zhang Dong Lu, Ningbo, China	
Test Item:	Swing and similar toys	
Type Designation	S04-101; S04-107; S04-301; S04-316; S04-112	
Incoming No.:	N/A	Date of receipt : 15.04.2013
Testing Laboratory:	TÜV NORD (Hangzhou) Co., Ltd.	
Test Standard:	EN71-1:2011 EN71-2:2011 prEN71-3:2012 EN71-8: 2011 PAH (ZEK01.4-08)	
Test Result:	Please refer to the following pages	
Shirlylly Xue	Signature: 	Date: 23.05.2013
Linda Yang	Signature: 	Date: 23.05.2013
Remark notes:	Reference number: EFSH13041013-ST+Rev1.	
Abbreviations: OK/P = passed, Fail/F = Failed, N/A/ N = Not Applicable, N/T=Not tested		
The duplication of this Technical Report or parts of it and its use for advertising purposes is only allowed with permission of the Testing Laboratory. This Technical Report contains the result of the examination of the product sample submitted by the manufacturer. A general statement concerning the quality of the products from the series production cannot be derived there from. This test report relates to the a. m. test sample. Without permission of the test Laboratory 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		

EN 71-1:2011			
Clause	Requirement – Test	Result – Remark	Verdict
4	General requirements		P
4.1	Material cleanliness		P
4.2	Assembly		P
4.3	Flexible plastic sheeting		N/A
4.4	Toy bags		N/A
4.5	Glass		N/A
4.6	Expanding materials		N/A
4.7	Edges		P
4.8	Points and metallic wires		N/A
4.9	Protruding parts		P
4.10	Parts moving against each other		N/A
4.11	Mouth-actuated toys and other toys intended to be put in the mouth		N/A
4.12	Balloons		N/A
4.13	Cords of toy kites and other flying toys		N/A
4.14	Enclosures		N/A
4.15	Toys intended to bear the mass of a child	Refer to EN71-8	N/A
4.16	Heavy immobile toys		N/A
4.17	Projectiles		N/A
4.18	Aquatic toys and inflatable toys		N/A
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps		N/A
4.20	Acoustics		N/A
4.21	Toys containing a non-electrical heat source		N/A
4.22	Small balls		N/A
4.23	Magnets		N/A

EN 71-1:2011			
Clause	Requirement – Test	Result – Remark	Verdict
5	Toys intended for children under 36 months		N/A
5.1	General requirements		N/A
5.2	Soft-filled toys and soft-filled parts of a toy		N/A
5.3	Plastic sheeting		N/A
5.4	Cords, chains and electrical cables in toys		N/A
5.5	Liquid-filled toys		N/A
5.6	Speed limitation of electrically driven ride-on toys		N/A
5.7	Glass and porcelain		N/A
5.8	Shape and size of certain toys		N/A
5.9	Toys comprising monofilament fibres		N/A
5.10	Small balls		N/A
5.11	Play figures		N/A
5.12	Hemispheric-shaped toys		N/A
5.13	Suction cups		N/A
5.14	Straps intended to be worn fully or partially around the neck		N/A
6	Packaging		N/A
7	Warnings and instructions for use		P
7.1	General		P
7.2	Toys not intended for children under 36 months		P
7.3	Latex balloons		N/A
7.4	Aquatic toys		N/A
7.5	Functional toys		N/A
7.6	Hazardous sharp functional edges and points		N/A

EN 71-1:2011			
Clause	Requirement – Test	Result – Remark	Verdict
7.7	Projectiles		N/A
7.8	Imitation protective masks and helmets		N/A
7.9	Toy kites		N/A
7.10	Roller skates, inline skates, skateboards and certain ride-on toys		N/A
7.11	Toy intended to be attached to or strung across a cradle, cot, or perambulator		N/A
7.12	Liquid-filled teethers		N/A
7.13	Percussion caps specifically designed for use in toys		N/A
7.14	Acoustics		N/A
7.15	Toy bicycles		N/A
7.16	Toys intended to bear the mass of a child		N/A
7.17	Toys comprising monofilament fibres		N/A
7.18	Toy scooters		N/A
7.19	Rocking horses and similar toys		N/A
7.20	Magnetic/ electrical experimental sets		N/A
7.21	Toys with electrical cables exceeding 300 mm in length		N/A
7.22	Toys with cords or chains intended for children of 18 months and over but under 36 months		N/A

EN 71-2: 2011			
Clause	Requirement – Test	Result – Remark	Verdict
4	Requirement		P
4.1	General requirement		P
4.2	Toys to be worn on the head		N/A
4.3	Toy disguise costumes and toys intended to be worn by a child		N/A
4.4	Toys intended to be entered by a child		N/A
4.5	Soft-filled toys		N/A

COMPONENT LIST

Component No.	Component
1	Black clamp
2	White clamp
3	Beige rope
4	White rope
5	Red plastic (S04-101)
6	Red plastic (S04-107)
7	Yellow plastic (S04-112)
8	Yellow plastic (S04-107)
9	Black plastic buckle
10	Vanish

TEST RESULT

prEN71 Part 3:2012 – Migration of Certain Elements

Test Method: Extractable Chromium(VI) – With reference to prEN 71 Part 3:2012, analysis was performed by HPLC-ICP-MS

Elements – With reference to prEN 71 Part 3:2012, analysis was performed by ICP-OES & ICP-MS.

Extractable Organic Tin –With reference to prEN 71 Part 3:2012, analysis was performed by GC-MS.

Requirements: European Directive 2009/48/EC

Test Item(s):	Limit	Unit	MDL	Result				
				1	2	3	4	5
Extractable Lead (Pb)	160	mg/kg	10	ND	ND	ND	ND	ND
Extractable Antimony (Sb)	560	mg/kg	10	ND	ND	ND	ND	ND
Extractable Arsenic (As)	47	mg/kg	10	ND	ND	ND	ND	ND
Extractable Barium (Ba)	56000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Cadmium (Cd)	17	mg/kg	10	ND	ND	ND	ND	ND
Extractable Chromium (III) (Cr III)	460	mg/kg	5	ND	ND	ND	ND	ND
Extractable Chromium (VI)	0.2	mg/kg	0.2	ND	ND	ND	ND	ND
Extractable Mercury (Hg)	94	mg/kg	10	ND	ND	ND	ND	ND
Extractable Selenium (Se)	460	mg/kg	10	ND	ND	ND	ND	ND
Extractable Boron (B)	15000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Cobalt (Co)	130	mg/kg	10	ND	ND	ND	ND	ND
Extractable Manganese (Mn)	15000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Strontium (Sr)	56000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Tin (Sn)	180000	mg/kg	0.2	ND	ND	ND	ND	ND
Extractable Zinc (Zn)	46000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Copper (Cu)	7700	mg/kg	50	ND	ND	ND	ND	ND
Extractable Aluminum (Al)	70000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Nickel (Ni)	930	mg/kg	10	ND	ND	ND	ND	ND
Extractable Organic Tin	12	mg/kg	0.2	ND	ND	ND	ND	ND

Note:

ND = Not detected, less than detection limit

mg/kg = Milligram per kilogram based on dry weight

MDL = Method Detection Limit.

TEST RESULT

prEN71 Part 3:2012 – Migration of Certain Elements

Test Method: Extractable Chromium(VI) – With reference to prEN 71 Part 3:2012, analysis was performed by HPLC-ICP-MS

Elements – With reference to prEN 71 Part 3:2012, analysis was performed by ICP-OES & ICP-MS.

Extractable Organic Tin –With reference to prEN 71 Part 3:2012, analysis was performed by GC-MS.

Requirements: European Directive 2009/48/EC

Test Item(s):	Limit	Unit	MDL	Result				
				6	7	8	9	10
Extractable Lead (Pb)	160	mg/kg	10	ND	ND	ND	ND	ND
Extractable Antimony (Sb)	560	mg/kg	10	ND	ND	ND	ND	ND
Extractable Arsenic (As)	47	mg/kg	10	ND	ND	ND	ND	ND
Extractable Barium (Ba)	56000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Cadmium (Cd)	17	mg/kg	10	ND	ND	ND	ND	ND
Extractable Chromium (III) (Cr III)	460	mg/kg	5	ND	ND	ND	ND	ND
Extractable Chromium (VI)	0.2	mg/kg	0.2	ND	ND	ND	ND	ND
Extractable Mercury (Hg)	94	mg/kg	10	ND	ND	ND	ND	ND
Extractable Selenium (Se)	460	mg/kg	10	ND	ND	ND	ND	ND
Extractable Boron (B)	15000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Cobalt (Co)	130	mg/kg	10	ND	ND	ND	ND	ND
Extractable Manganese (Mn)	15000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Strontium (Sr)	56000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Tin (Sn)	180000	mg/kg	0.2	ND	ND	ND	ND	ND
Extractable Zinc (Zn)	46000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Copper (Cu)	7700	mg/kg	50	ND	ND	ND	ND	ND
Extractable Aluminum (Al)	70000	mg/kg	50	ND	ND	ND	ND	ND
Extractable Nickel (Ni)	930	mg/kg	10	ND	ND	ND	ND	ND
Extractable Organic Tin	12	mg/kg	0.2	ND	ND	ND	ND	ND

Note:

ND = Not detected, less than detection limit

mg/kg = Milligram per kilogram based on dry weight

MDL = Method Detection Limit.

EN 71-8: 2011			
Clause	Requirement – Test	Result – Remark	Verdict
1	Scope (see A1)		P
2	Normative references		P
3	Terms and definitions		P
4	Requirements		P
4.1	General (see A.2)		P
4.1.1	Assembly		P
4.1.2	Static strength		P
4.1.3	Maximum height		P
4.1.4	Corners and edges		P
4.1.5	Protruding parts		P
4.1.6	Diameter of ropes and other means of suspension	Please also refer to cl.6.8	P
4.2	Barriers, handrails and ladders and similar means of access to activity toys		N/A
4.2.1	Barriers and handrails preventing a child from falling down (see A.5)		N/A
4.2.2	Ladders and similar means of access to toys (see A.6)		N/A
4.3	Entrapment (see A.7)		P
4.3.1	Head and neck entrapment		P
4.3.2	Entrapment of clothing and hair		N/A
4.3.3	Entrapment of feet		N/A
4.3.4	Entrapment of fingers		P
4.4	Stability of activity toys other than slides, swings and activity toys with crossbeams and see-saws		N/A
4.4.1	General		N/A
4.4.2	Stability of activity toys with a free height of fall of 600 mm or less		N/A
4.4.3	Stability of activity toys with a free height of fall of more than 600 mm		N/A
4.5	Slides (see A.8)		N/A
4.5.1	Stability of slides		N/A
4.5.2	Retaining sides for slides (See A.9)		N/A
4.5.3	Starting, sliding and run-out section on slides		N/A
4.6	Swings (see A.10)		P

EN 71-8: 2011			
Clause	Requirement – Test	Result – Remark	Verdict
4.6.1	Stability of swings and other activity toys with crossbeams		N/A
4.6.1.1	General		N/A
4.6.1.2	Swings and other activity toys with crossbeams more than 1200 mm over the ground		N/A
4.6.1.3	Swings and other activity toys with crossbeams 1 200 mm or less above the ground		N/A
4.6.2	Static strength of crossbeams, swing devices and suspension connectors	Refer to cl.6.3.2.	P
4.6.3	Swings intended for children under 36 months		P
4.6.4	Minimum clearance between adjacent swing elements, and adjacent structures		P
4.6.5	Lateral stability of swing elements		P
4.6.6	Minimum clearance between swing elements and the ground (see A.11)		P
4.6.7	Suspension connectors and swing devices		P
4.6.8	Impact, geometry and design of swing elements		N/A
4.6.8.1	General		N/A
4.6.8.2	Impact from swing elements		N/A
4.6.8.3	Geometry and design of swing elements		N/A
4.7	See-saws		N/A
4.7.1	Stability of see-saws		N/A
4.7.2	Seat/Stand height		N/A
4.7.3	Restraint of motion		N/A
4.7.4	Pinching and crushing of fingers and toes		N/A
4.7.5	Hand supports		N/A
4.8	Carousels and rocking activity toys (see A.12)		N/A
4.9	Paddling pool		N/A
4.9.1	Static strength of paddling pools with non-inflatable walls		N/A
4.9.2	Paddling pools with inflatable walls		N/A
5	Warnings, markings, and instructions		P
5.1	Warnings and markings		P
5.1.1	General		P
5.1.2	Paddling pools		N/A

EN 71-8: 2011			
Clause	Requirement – Test	Result – Remark	Verdict
5.2	Assembly and installation instructions		P
5.3	Maintenance		P
6	Test methods		N/A
6.1	General		N/A
6.2	Stability		N/A
6.2.1	Stability of activity toys with a free height of fall of 600 mm or less (see 4.4.2 and 4.8)		N/A
6.2.2	Stability of activity toys with a free height of fall of more than 600 mm (see 4.4.3)		N/A
6.2.2.1	Principle		N/A
6.2.2.2	Apparatus		N/A
6.2.2.3	Procedure		N/A
6.2.3	Stability of slides (see 4.5.1)		N/A
6.2.4	Stability of swings and other activity toys with crossbeams (see 4.6.1)		N/A
6.2.4.1	Stability of swings and other activity toys with crossbeams more than 1 200 mm over the ground (see 4.6.1.2)		N/A
6.2.4.1.1	Principle (See A13)		N/A
6.2.4.1.2	Apparatus		N/A
6.2.4.1.3	Procedure		N/A
6.2.4.2	Stability of swings and other activity toys with crossbeams 1 200 mm or less above the ground (see 4.6.1.3)		N/A
6.2.5	Stability of see-saws (See 4.7.1)		N/A
6.3	Static strength		P
6.3.1	Strength of activity toys other than swings and paddling pools (see 4.1.2 and 4.8)		N/A
6.3.2	Strength of swings (see 4.6.2)	Loaded with 200 kg and the result is o.k.	P
6.3.2.1	Strength of swings with crossbeam more than 1200 mm above the ground		P
6.3.2.2	Strength of swings with suspension points 1200 mm or less above the ground		N/A
6.4	Dynamic strength of barriers and handrails (see 4.2.1)		N/A
6.4.1	Principle		N/A
6.4.2	Apparatus		N/A

EN 71-8: 2011			
Clause	Requirement – Test	Result – Remark	Verdict
6.4.3	Procedure		N/A
6.5	Test for head and neck entrapment (see 4.3.1)		N/A
6.5.1	Head and neck entrapment in accessible completely bound openings (see 4.3.1a) and 4.3.1.c))		N/A
6.5.2	Head and neck entrapment in partially bound and V-shaped openings (see 4,3.1d))		N/A
6.5.2.1	Principle		N/A
6.5.2.2	Apparatus		N/A
6.5.2.3	Procedure		N/A
6.6	Toggle test (see 4.3.2)		N/A
6.6.1	Principle		N/A
6.6.2	Apparatus		N/A
6.6.3	Procedure		N/A
6.6.3.1	Slides		N/A
6.6.3.2	Fireman's poles		N/A
6.6.3.3	Roofs		N/A
6.7	Measurements of sliding and run-out sections on slides (see 4.5.3)		N/A
6.7.1	Measurement of inclination of the sliding section on slides (see 4.5.3 f))		N/A
6.7.2	Measurement of the minimum angle between the sliding section and the run-out section on slides (see 4.5.3.g))		N/A
6.8	Diameter of ropes and other means of suspension (see 4.1.6)		P
6.9	Determination of impact from swing elements (see 4.6.8.2)		N/A
6.9.1.	Principle		N/A
6.9.2	Apparatus		N/A
6.9.2.1	Testing device		N/A
6.9.2.2	Accelerometer		N/A
6.9.2.3	Recording device		N/A
6.9.2.4	Metal chains		N/A
6.9.3	Preparations		N/A
6.9.3.1	Assembly and set-up		N/A
6.9.3.2	Tensioning of ropes or cables		N/A

EN 71-8: 2011			
Clause	Requirement – Test	Result – Remark	Verdict
6.9.3.3	Adjustments and preparations		N/A
6.9.4	Testing		N/A
6.9.4.1	General		N/A
6.9.4.2	Test procedure for swing impact		N/A
6.10	Static load test for paddling pools with non-inflatable walls (see 4.9.1)		N/A

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

- Test specification : 18 Polycyclic Aromatic Hydrocarbons in polymers (PAHs) (defined in US EPA Method 610, and also Based on the document ZEK 01.4-08)
- Test method : Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to ZEK 01.4-08
- Requirement : ZLS-ZEK 01.4-08 (table 1): Limits for PAH in products. see below:

Parameter	Category 1 Material in intended to put in the mouth and toys for children<36 months	Category 2 Materials with foreseeable contact to skin for longer than 30 seconds (long-term skin contact) and toys not covered by category 1	Category 3 Materials with foreseeable contact to skin up to 30 seconds (short-term skin contact) or without skin contact		
Benzo(a)pyrene(mg/kg)	<0.2	1	20		
Sum 18 PAHs(mg/kg)	<0.2	10	200		
Parameter	CAS No.	Unit	Result		
			3	5	7
Group PAHs	--	mg/kg	ND	ND	ND
Acenaphthene	83-32-9	mg/kg	ND	ND	ND
Acenaphthylene	208-96-8	mg/kg	ND	ND	ND
Anthracene	120-12-7	mg/kg	ND	ND	ND
Benz(a)anthracene	56-55-3	mg/kg	ND	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	ND	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	ND	ND	ND
Benzo(ghi)perylene	191-24-2	mg/kg	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	ND	ND	ND
Chrysene	218-01-9	mg/kg	ND	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	ND	ND	ND
Fluoranthene	206-44-0	mg/kg	ND	ND	ND
Fluorene	86-73-7	mg/kg	ND	ND	ND
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	ND	ND	ND
Naphthalene	91-20-3	mg/kg	ND	ND	ND
Phenanthrene	1985-1-8	mg/kg	ND	ND	ND
Pyrene	129-00-0	mg/kg	ND	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	ND	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	ND	ND	ND
Summary to above mentioned requirement:	For Category 2 skin contact more than 30 sec		Pass	Pass	Pass

mg/kg = milligram per kilogram

ND=not detected, less than 0.2 mg/kg

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

- Test specification : 18 Polycyclic Aromatic Hydrocarbons in polymers (PAHs) (defined in US EPA Method 610, and also Based on the document ZEK 01.4-08)
- Test method : Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to ZEK 01.4-08
- Requirement : ZLS-ZEK 01.4-08 (table 1): Limits for PAH in products. see below:

Parameter	Category 1 Material in intended to put in the mouth and toys for children<36 months	Category 2 Materials with foreseeable contact to skin for longer than 30 seconds (long-term skin contact) and toys not covered by category 1	Category 3 Materials with foreseeable contact to skin up to 30 seconds (short-term skin contact) or without skin contact		
Benzo(a)pyrene(mg/kg)	<0.2	1	20		
Sum 18 PAHs(mg/kg)	<0.2	10	200		
Parameter	CAS No.	Unit	Result		
			2	4	6
Group PAHs	--	mg/kg	ND	ND	ND
Acenaphthene	83-32-9	mg/kg	ND	ND	ND
Acenaphthylene	208-96-8	mg/kg	ND	ND	ND
Anthracene	120-12-7	mg/kg	ND	ND	ND
Benz(a)anthracene	56-55-3	mg/kg	ND	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	ND	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	ND	ND	ND
Benzo(ghi)perylene	191-24-2	mg/kg	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	ND	ND	ND
Chrysene	218-01-9	mg/kg	ND	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	ND	ND	ND
Fluoranthene	206-44-0	mg/kg	ND	ND	ND
Fluorene	86-73-7	mg/kg	ND	ND	ND
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	ND	ND	ND
Naphthalene	91-20-3	mg/kg	ND	ND	ND
Phenanthrene	1985-1-8	mg/kg	ND	ND	ND
Pyrene	129-00-0	mg/kg	ND	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	ND	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	ND	ND	ND
Summary to above mentioned requirement:	For Category 1 food or mouth contact, or toys for children		Pass	Pass	Pass

mg/kg = milligram per kilogram
 ND=not detected, less than 0.2 mg/kg

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

- Test specification : 18 Polycyclic Aromatic Hydrocarbons in polymers (PAHs) (defined in US EPA Method 610, and also Based on the document ZEK 01.4-08)
- Test method : Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to ZEK 01.4-08
- Requirement : ZLS-ZEK 01.4-08 (table 1): Limits for PAH in products. see below:

Parameter	Category 1 Material in intended to put in the mouth and toys for children<36 months	Category 2 Materials with foreseeable contact to skin for longer than 30 seconds (long-term skin contact) and toys not covered by category 1	Category 3 Materials with foreseeable contact to skin up to 30 seconds (short-term skin contact) or without skin contact	
			8	9#
Benzo(a)pyrene(mg/kg)	<0.2	1	20	
Sum 18 PAHs(mg/kg)	<0.2	10	200	
Parameter	CAS No.	Unit	Result	
Group PAHs	--	mg/kg	ND	ND
Acenaphthene	83-32-9	mg/kg	ND	ND
Acenaphthylene	208-96-8	mg/kg	ND	ND
Anthracene	120-12-7	mg/kg	ND	ND
Benz(a)anthracene	56-55-3	mg/kg	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	ND	ND
Benzo(ghi)perylene	191-24-2	mg/kg	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	ND	ND
Chrysene	218-01-9	mg/kg	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	ND	ND
Fluoranthene	206-44-0	mg/kg	ND	ND
Fluorene	86-73-7	mg/kg	ND	ND
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	ND	ND
Naphthalene	91-20-3	mg/kg	ND	ND
Phenanthrene	1985-1-8	mg/kg	ND	ND
Pyrene	129-00-0	mg/kg	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	ND	ND
Summary to above mentioned requirement:	For Category 1 food or mouth contact, or toys for children		Pass	Pass

mg/kg = milligram per kilogram

ND=not detected, less than 0.2 mg/kg

* The result was found to be more than the permissible limit.

Indicate retest result

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

- Test specification : 18 Polycyclic Aromatic Hydrocarbons in polymers (PAHs) (defined in US EPA Method 610, and also Based on the document ZEK 01.4-08)
- Test method : Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to ZEK 01.4-08
- Requirement : ZLS-ZEK 01.4-08 (table 1): Limits for PAH in products. see below:

Parameter	Category 1 Material in intended to put in the mouth and toys for children<36 months	Category 2 Materials with foreseeable contact to skin for longer than 30 seconds (long-term skin contact) and toys not covered by category 1	Category 3 Materials with foreseeable contact to skin up to 30 seconds (short-term skin contact) or without skin contact	
			1	10
Benzo(a)pyrene(mg/kg)	<0.2	1	20	
Sum 18 PAHs(mg/kg)	<0.2	10	200	
Parameter	CAS No.	Unit	Result	
			1	10
Group PAHs	--	mg/kg	ND	1.6
Acenaphthene	83-32-9	mg/kg	ND	ND
Acenaphthylene	208-96-8	mg/kg	ND	ND
Anthracene	120-12-7	mg/kg	ND	0.276
Benz(a)anthracene	56-55-3	mg/kg	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	ND	ND
Benzo(ghi)perylene	191-24-2	mg/kg	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	ND	ND
Chrysene	218-01-9	mg/kg	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	ND	ND
Fluoranthene	206-44-0	mg/kg	ND	ND
Fluorene	86-73-7	mg/kg	ND	0.403
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	ND	ND
Naphthalene	91-20-3	mg/kg	ND	ND
Phenanthrene	1985-1-8	mg/kg	ND	0.971
Pyrene	129-00-0	mg/kg	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	ND	ND
Summary to above mentioned requirement:	For Category 2 skin contact more than 30 sec		Pass	Pass

mg/kg = milligram per kilogram
 ND=not detected, less than 0.2 mg/kg

END OF TEST REPORT