

TEST REPORT

APPLICANT : Liyou Industrial Co.,Ltd

ADDRESS : Yangwan industrial area, QiaoXia Town, Yongjia County, Zhejiang 325106

SAMPLE DESCRIPTION : Children tunnel

ITEM NO. : LY-1602, LY-1603

AGE REQUESTED ON APPLICATION FORM : 3+

LABELED AGE GRADE : 3+

AGE GRADE APPLIED IN TESTING : Over 3 Years

SAMPLE RECEIVED DATE : 25-Oct-2022

TURN AROUND TIME : 25-Oct-2022 to 27-Oct-2022

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Migration of Certain Elements	BS EN 71-3:2019+A1:2021	Pass
Flammability of Toys	BS EN 71-2:2020	Pass
Physical and Mechanical Hazards	BS EN 71-1:2014+A1:2018	Pass
Labeling Requirement for United Kingdom	The Toys (Safety) Regulations 2011 and The Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019	Pass

Samples are obtained by express delivery, Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins Product Testing Service (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to info.sh@eurofins.com and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins Product Testing Service (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to chinacomplaint@eurofins.com and referring to this report number.



***** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) *****

Signed for and on behalf of
Eurofins Product Testing Service (Shanghai) Co., Ltd



Joyce Liu
Lab Manager

SAMPLE PHOTO(S)



A:LY-1602



B:LY-1603

EFSH22101563-CG-01

TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Sample No.
1	Green plastic	A
2	Dark green plastic	A
3	Blue plastic	A
4	Dark blue plastic	A
5	Yellow plastic	A
6	Dark yellow plastic	A
7	Red plastic	A,B
8	Dark red plastic	A
9	Light red plastic nose	A
10	Transparent plastic with underlying multi-color coating (eyes)	A
11	Purple plastic	B
12	Black plastic (eyes)	B
13	White plastic (eyes)	B
14	Light green plastic	B
15	Dark blue plastic	B
16	Orange plastic	B
17	Orange yellow plastic	B
18	Yellow plastic	B

TO BE CONTINUED

TEST RESULT

Migration of Certain Elements

Test Request: Migration of certain elements as specified in British Standard on Safety of Toys BS EN 71-3:2019+A1:2021.

Test Method: General elements, with reference to BS EN 71-3:2019+A1:2021, analysis was performed by ICP-MS;
Extractable Chromium (VI), with reference to BS EN 71-3:2019+A1:2021, analysis was performed by IC-ICP-MS;
Extractable organic tin, with reference to BS EN 71-3:2019+A1:2021, analysis was performed by GC-MS.

Test Item(s):	Unit	Result							
		1	2	3	4	5	6	7	8
Category Type		III	III	III	III	III	III	III	III
Extractable Lead (Pb)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Antimony (Sb)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Arsenic (As)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Barium (Ba)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Cadmium (Cd)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Mercury (Hg)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Selenium (Se)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Boron (B)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Cobalt (Co)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Manganese (Mn)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Strontium (Sr)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Zinc (Zn)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Copper (Cu)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Aluminum (Al)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Nickel (Ni)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Tin (Sn)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Chromium#2	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Organic Tin#1	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Chromium (III) (Cr III) #3	mg/kg	-	-	-	-	-	-	-	-
Extractable Chromium (VI) (Cr VI)	mg/kg	-	-	-	-	-	-	-	-

TO BE CONTINUED

TEST RESULT

Test Item(s):	Unit	Result							
		9	10	11	12	13	14	15	16
Category Type		III	III	III	III	III	III	III	III
Extractable Lead (Pb)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Antimony (Sb)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Arsenic (As)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Barium (Ba)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Cadmium (Cd)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Mercury (Hg)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Selenium (Se)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Boron (B)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Cobalt (Co)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Manganese (Mn)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Strontium (Sr)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Zinc (Zn)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Copper (Cu)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Aluminum (Al)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Nickel (Ni)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Tin (Sn)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Chromium#2	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Organic Tin#1	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Extractable Chromium (III) (Cr III) #3	mg/kg	-	-	-	-	-	-	-	-
Extractable Chromium (VI) (Cr VI)	mg/kg	-	-	-	-	-	-	-	-

Test Item(s):	Unit	Result	
		17	18
Category Type		III	III
Extractable Lead (Pb)	mg/kg	ND	ND
Extractable Antimony (Sb)	mg/kg	ND	ND
Extractable Arsenic (As)	mg/kg	ND	ND
Extractable Barium (Ba)	mg/kg	ND	ND
Extractable Cadmium (Cd)	mg/kg	ND	ND
Extractable Mercury (Hg)	mg/kg	ND	ND
Extractable Selenium (Se)	mg/kg	ND	ND
Extractable Boron (B)	mg/kg	ND	ND
Extractable Cobalt (Co)	mg/kg	ND	ND
Extractable Manganese (Mn)	mg/kg	ND	ND
Extractable Strontium (Sr)	mg/kg	ND	ND
Extractable Zinc (Zn)	mg/kg	ND	ND
Extractable Copper (Cu)	mg/kg	ND	ND
Extractable Aluminum (Al)	mg/kg	ND	ND
Extractable Nickel (Ni)	mg/kg	ND	ND
Extractable Tin (Sn)	mg/kg	ND	ND
Extractable Chromium#2	mg/kg	ND	ND
Extractable Organic Tin#1	mg/kg	ND	ND
Extractable Chromium (III) (Cr III) #3	mg/kg	-	-
Extractable Chromium (VI) (Cr VI)	mg/kg	-	-

TO BE CONTINUED

TEST RESULT

Note:

#1 - The migration of organic tin is expressed as tributyltin.

#2 - If the migration of total Chromium is below the maximum limit for Chromium (VI), it can be inferred that the material complies with the requirements for both Chromium(III) and Chromium(VI).

#3 - In particular Chromium (III) is calculated by subtracting the Chromium (VI) concentration from the total chromium concentration.

Remarks:

mg/kg = milligram per kilogram

MDL = Method Detection Limit

ND = Not Detected, less than MDL

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Limits –MDL per category type:

Test Item(s):	Unit	Limit	MDL	Limit	MDL	Limit	MDL
Category Type		I		II		III	
Extractable Lead (Pb)	mg/kg	2.0	1.0	0.5	0.2	23	10
Extractable Antimony (Sb)	mg/kg	45	5	11.3	1	560	10
Extractable Arsenic (As)	mg/kg	3.8	0.2	0.9	0.1	47	5
Extractable Barium (Ba)	mg/kg	1500	50	375	10	18750	50
Extractable Cadmium (Cd)	mg/kg	1.3	0.1	0.3	0.05	17	1
Extractable Mercury (Hg)	mg/kg	7.5	0.5	1.9	0.2	94	10
Extractable Selenium (Se)	mg/kg	37.5	2	9.4	1	460	10
Extractable Boron (B)	mg/kg	1200	50	300	10	15000	50
Extractable Cobalt (Co)	mg/kg	10.5	1	2.6	0.2	130	10
Extractable Manganese (Mn)	mg/kg	1200	50	300	10	15000	50
Extractable Strontium (Sr)	mg/kg	4500	50	1125	50	56000	50
Extractable Zinc (Zn)	mg/kg	3750	50	938	50	46000	50
Extractable Copper (Cu)	mg/kg	622.5	10	156	10	7700	50
Extractable Aluminum (Al)*	mg/kg	2250	50	560	50	28130	50
Extractable Nickel (Ni)	mg/kg	75	5	18.8	2	930	10
Extractable Tin (Sn)	mg/kg	15000	50	3750	50	180000	50
Extractable Organic Tin	mg/kg	0.9	0.2	0.2	0.2	12	0.2
Extractable Chromium	mg/kg	-	0.02	-	0.005	-	0.02
Extractable Chromium (III) (Cr III)	mg/kg	37.5	2	9.4	1	460	10
Extractable Chromium (VI) (Cr VI)	mg/kg	0.02	0.02	0.005	0.005	0.053	0.02

Category I: dry, brittle, powder-like or pliable toy material

Category II: liquid or sticky toy material

Category III: scrapped-off toy material

"-" = Not Regulated

* - The migration limits for Aluminium have been amended by Commission Directive (EU) 2019/1922. The new limit values (2250 mg/kg, 560 mg/kg and 28130 mg/kg, respectively) apply from 2021-05-20. Before this date the limit values 5625 mg/kg, 1406 mg/kg and 70000 mg/kg, respectively, apply.

TO BE CONTINUED

TEST RESULT

Flammability of Toys

Test Request: As Specified in European Standard on Safety of Toys BS EN 71-2:2020

Section	Description	Result
4	Requirements	
4.1	General Requirements	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 in play	N/A
4.4	Toys intended to be entered by a child	N/A
4.5	Soft-filled toys	N/A

Remark:

P - Pass, F - Fail, N/A - Not Applicable

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TO BE CONTINUED

TEST RESULT

Physical and Mechanical Hazards

Test Request: As specified in British Standard on Safety of Toys BS EN 71-1:2014+A1:2018

Section	Description	Result
4	General requirements	
4.1	Material cleanliness (by visual assessment)	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	P
4.9	Protruding parts	N/A
4.10	Parts moving against each other	
4.10.1	Folding and sliding mechanisms	N/A
4.10.2	Driving mechanisms.	N/A
4.10.3	Hinges	N/A
4.10.4	Springs	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	
4.14.1	Toys which a child can enter	N/A
4.14.2	Masks and helmets	N/A
4.15	Toys intended to bear the mass of a child	
4.15.1	Toys propelled by the child or by other means	N/A
4.15.2	Toy bicycles	N/A
4.15.3	Rocking horses and similar toys	N/A
4.15.4	Toys not propelled by a child	N/A
4.15.5	Toys scooters	N/A
4.16	Heavy immobile toys	P
4.17	Projectiles	
4.17.1	General	N/A
4.17.2	All projectiles	N/A
4.17.3	Projectile toy with stored energy	N/A
4.17.4	Certain projectile toys without stored energy	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	
4.20.2.1	General	N/A
4.20.2.2	Close-to-the-ear toys	N/A
4.20.2.3	Table-top or floor toys	N/A
4.20.2.4	Hand-held toys	N/A
4.20.2.5	Toys using headphones or earphones	N/A
4.20.2.6	Rattles	N/A
4.20.2.7	Squeeze toys	N/A

TO BE CONTINUED

TEST RESULT

Section	Description	Result
4.20.2.8	Pull-along or push toys	N/A
4.20.2.9	Percussion toys	N/A
4.20.2.10	Wind toys	N/A
4.20.2.11	Cap-firing toys	N/A
4.20.2.12	Voice toys	N/A
4.21	Toys containing a non-electrical heat source	N/A
4.22	Small balls	N/A
4.23	Magnets	N/A
4.24	Yo-yo balls	N/A
4.25	Toys attached to food	N/A
4.26	Toy disguise costumes	N/A
4.27	Flying toys	
4.27.1	General	N/A
4.27.2	Rotors and propellers on flying toys	N/A
4.27.3	Rotors and propellers on remote controlled flying toys	N/A
5	Toys intended for children under 36 months	
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
5.15	Sledges with cords for pulling	N/A
6	Packaging	P
7	Warnings, markings and instructions for use	
7.1	General	P
7.2	Toys not intended for children under 36 months	P
7.3	Latex Balloons	N/A
7.4	Aquatic toys	N/A
7.5	Functional Toys	N/A
7.6	Hazardous sharp functional edges and points	N/A
7.7	Projectiles toys	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 other ride-on toys	N/A
7.11	Toys intended to be strung across a cradle, cot, or perambulator	N/A
7.12	Liquid-filled teethingers	N/A
7.13	Percussion caps specifically designed for use in toys	N/A
7.14	Acoustics	N/A
7.15	Toys bicycles	N/A

TO BE CONTINUED

TEST RESULT

Section	Description	Result
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	Toy with electrical cables exceeding 300mm 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
7.23	Toys intended to be attached to a cradle, cot or perambulator	N/A
7.24	Sledges with cords for pulling	N/A
7.25	Flying toys	
7.25.1	Flying toys	N/A
7.25.2	Remote controlled flying toys	N/A
7.26	Improvised projectiles	N/A

Remark:

P - Pass, F - Fail, N/A - Not Applicable, N/C - Not Conduct as per client's request

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Labeling Requirement for United Kingdom

Test Request: Labeling requirement including Washing/Cleaning instruction, compliance marking, importer / manufacturer name and address, product identification as specified in The Toys (Safety) Regulations 2011 and The Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019

Labeling Content	Observation Result	Location	Conclusion
Washing/Cleaning Instruction	Not Applicable	-	-
UKCA Marking	Present, Correct form, UKCA marking (height >5mm)	Packaging	Pass
Importer's Name & Address	Present	Packaging	Pass
Manufacturer's Name & Address	Present	Packaging Product	Pass
Product ID	Present	Packaging Product	Pass

END OF THE REPORT