



# Test Report

No. F690101/LF-CTSAYHA18-03714

Issued Date : 2018. 04. 12

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**I&S CO., LTD.**

172 Hojukhwasan-ro, Oksan-myeon  
Chungju-si, Cheongwon-gun, Chungbuk  
Korea

The following sample(s) was/were submitted and identified by/on behalf of the client as:-

<b>SGS File No.</b>	: AYHA18-03714
<b>Sample Description</b>	: Dwinguler Kid's Play Mat (环保康乐儿童塑)
<b>Detail of Sample</b>	: Play mat
<b>Style no./Item no.</b>	: -
<b>Order No.</b>	: -
<b>Packaging</b>	: Yes, provided
<b>Instructions for use/assembly</b>	: Yes, provided
<b>Buyer</b>	: -
<b>Manufacturer</b>	: I&S CO., LTD.
<b>Country of Origin</b>	: -
<b>Country of Destination</b>	: -
<b>Labeled age grading</b>	: 0~7+
<b>Requested age</b>	: None
<b>SGS assessed age (based on CEN ISO 8124-8 /CPSC Age Determination guidelines)</b>	: All ages
<b>Received Date</b>	: 2018. 04. 04
<b>Test Period</b>	: 2018. 04. 04 to 2018. 04. 12
<b>Test Method</b>	: For further details, please refer to following page (s)
<b>Test Results</b>	: For further details, please refer to following page (s)

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## Result Summary

Test Requested	Conclusion
EN 71 Part 1:2014– Mechanical and Physical Properties	PASS
EN 71 Part 2:2011+A1:2014– Flammability of Toys	PASS
Labeling requirement (Washing/Cleaning Label, CE mark, importer / manufacturer mark (name, address), product identification) according to the Directive 2009/48/EC-Safety of toys	See note 1*
EN71-3:2013 + A1:2014 – Migration of certain elements (By all conclusive testing)	PASS
Phthalates content Entries 51 and 52 of European Regulation (EC) No. 1907/2006 (REACH) Annex XVII and Regulation (EC) No. 552/2009 – previously restricted under Directive 2005/84/EC	PASS
Formaldehyde content As specified by client, selected parts of the submitted sample(s) with reference to Safety of Toys, EN 71-9:2005+A1:2007 – Organic Chemical Compounds – Requirements.	PASS

SGS Korea Co., Ltd.



Daesung Lee / Technical Manager

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## Test Conducted

European Standard on Safety of Toys  
- Mechanical & Physical Properties

As specified in European standard on safety of toys EN 71 Part 1:2014

Clause	Description	Result
4	General requirements	-
4.1	Material cleanliness	Pass
4.7	Edges	Pass
4.8	Points and metallic wires	Pass
5	Toys intended for children under 36 months	-
5.1	General requirements	Pass
5.1a	Small part requirements on toys & removable components (Test method 8.2)	Pass
5.1b	Torque test(Test method 8.3)	Pass
	Tension test(Test method 8.4)	Pass
	Tip over test(Test method 8.6)	Pass
	Impact test(Test method 8.7)	Pass
	Sharp edge(Test method 8.11)	Pass
	Sharp point(Test method 8.12)	Pass
5.1d	Large and bulky toys	Pass
5.2	Soft-filled toys and soft-filled parts of a toy	Pass
6	Packaging	Pass

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- Flammability of Toys

As specified in European standard on safety of toys EN71 PART 2: 2011+A1:2014

Clause	Description	Result
4.1	General requirements	Pass
4.5	Soft-filled toys (animals and doll, etc.) with a piled or textile surface	Pass (See note *)

Note :

\* Soft-filled toys (animals and doll, etc.) with a piled or textile surface (Clause 4.5)

Sample	Burning Rate (mm/sec.)
Play mat	DNI

(The rate of spread of flame on the surface of toy shall not be greater than 30 mm/sec.)

DNI = Did not ignite

N/A = Not applicable since the requirements of this sub-clause do not apply to toys with a greatest dimension of 150mm or less

N.B.: Only applicable clauses were shown.

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See note 1\*

**Labeling requirement (Washing/Cleaning Label, CE mark, importer / manufacturer mark (name, address), product identification) according to the Directive 2009/48/EC-Safety of toys**

Summary table:

	Observation Result	Location
Washing/Cleaning instruction	Present	Packaging
CE mark	Present	Packaging
Importer's Name & Address	Absent	See Note 3
Manufacturer's Name & Address	Present	Packaging
Product ID	Absent	See Note 4

Note:

1. According to Directive 2009/48/EC, a toy intended for use by children under 36 months must be designed and manufactured in such a way that it can be cleaned. A textile toy must, to this end, be washable, except if it contains a mechanism that may be damaged if soaked. The manufacturer should, if applicable, provide instructions on how the toy has to be cleaned.
2. CE marking should be visible from outside the packaging and its height must be at least 5mm.
3. Manufacturer's and Importer's name, registered trade name or registered trade mark and the address at which the manufacturer can be contacted must be indicated on the toy or, where that is not possible, on its packaging or in a document accompanying the toy.
4. Manufacturers must ensure that their toys bear a type, batch, serial or model number or other element allowing their identification, or where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy.

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## EN71-3:2013 + A1:2014 – Migration of certain elements

### Category III: Scrapped-off toy material

Method : With reference to EN71-3:2013 + A1:2014. Analysis of general elements was performed by ICP-OES. Chromium (III) was obtained by calculation, chromium (VI) was analyzed by IC-UV/VIS. Organic Tin was analyzed by GC-MS.

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (EN71-3:2013 +A1:2014) (mg/kg)
	1-11		
Mass of trace amount (mg)	--	--	--
Soluble Aluminium (Al)	ND	50	70,000
Soluble Antimony (Sb)	ND	10	560
Soluble Arsenic (As)	ND	10	47
Soluble Barium (Ba)	ND	50	18,750
Soluble Boron (B)	ND	50	15,000
Soluble Cadmium (Cd)	ND	5	17
Soluble Chromium (Cr)	ND	0.15	--
Soluble Chromium (III) (Cr (III))	ND	5	460
Soluble Chromium (VI) (Cr (VI))	ND	0.18	0.2
Soluble Cobalt (Co)	ND	10	130
Soluble Copper (Cu)	ND	50	7,700
Soluble Lead (Pb)	ND	10	160
Soluble Manganese (Mn)	ND	50	15,000
Soluble Mercury (Hg)	ND	10	94
Soluble Nickel (Ni)	ND	10	930
Soluble Selenium (Se)	ND	10	460
Soluble Strontium (Sr)	ND	50	56,000
Soluble Tin (Sn)	ND	4.9	180,000
Soluble Organic Tin --	ND	0.5	12
Soluble Zinc (Zn)	ND	50	46,000
Comment for EN71-3:2013 + A1:2014	PASS	--	--

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Test Item(s)	Soluble Organic Tin Result(s) (mg/kg)		MDL (mg/kg)
	1-11		
Methyl tin (MeT)	ND		0.5
Di-n-propyl tin (DProT)	ND		0.5
Butyl tin (BuT)	ND		0.5
Dibutyl tin (DBT)	ND		0.5
Tributyl tin (TBT)	ND		0.5
n-Octyl tin (MOT)	ND		0.5
Tetrabutyl tin (TeBT)	ND		0.5
Diphenyl tin (DPhT)	ND		0.5
Di-n-octyl tin (DOT)	ND		0.5
Triphenyl tin (TPhT)	ND		0.5

## Sample Description :

- |                          |                      |
|--------------------------|----------------------|
| 1. White foam (inside)   | 2. Grey mat skin     |
| 3. Light yellow mat skin | 4. Sky blue mat skin |
| 5. Green mat skin        | 6. Pink mat skin     |
| 7. Yellow mat skin       | 8. Brown mat skin    |
| 9. Purple mat skin       | 10. Blue mat skin    |
| 11. Orange mat skin      |                      |

Note. 1. mg/kg = milligram per kilogram  
 2. ND = Not Detected  
 3. 1% = 10000 mg/kg = 10000 ppm

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## Phthalates content

Test Method: With reference to CPSC-CH-C1001-09.3. Analysis was performed by GC-MS.

Test Item(s)	CAS No.	Unit	Detection Limit	Result(s)	Recommended Max. Limit
				1-2	
For childcare articles if it can be placed in the mouth					
Dibutyl phthalate (DBP)	84-74-2	%	0.015	N. D.	0.1 (total)
Benzyl butyl phthalate (BBP)	85-68-7	%	0.015	N. D.	
Bis-(2-ethylhexyl) phthalate (DEHP)	117-81-7	%	0.015	N. D.	
Σ of Phthalates		%	-	N. D.	
Di-isononyl phthalate (DINP)	28553-12-0 / 68515-48-0	%	0.015	N. D.	0.1 (total)
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.015	N. D.	
Di-isodecyl phthalate (DIDP)	26761-40-0 / 68515-49-1	%	0.015	N. D.	
Σ of Phthalates		%	-	N. D.	
Conclusion		-	-	PASS	-

## Sample Description :

1. White foam (inside)
2. Grey mat skin

Note: (1) N. D. = Not Detected (lower than Detection Limit)

(2) % = percentage by weight

(3) Recommended Max. limit specified by entries 51 and 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).

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## Formaldehyde

Method: With reference to ISO 14184-1. Analysis was performed by UV-vis.

Test Item(s)	CAS Number	MDL (mg/kg)	Result(s) (Unit : mg/kg)	Limit (mg/kg)
			1-11	
Formaldehyde	50-00-0	16	N.D.	30
<b>Conclusion</b>	-	-	<b>PASS</b>	-

### Sample description :

- |                          |                      |
|--------------------------|----------------------|
| 1. White foam (inside)   | 2. Grey mat skin     |
| 3. Light yellow mat skin | 4. Sky blue mat skin |
| 5. Green mat skin        | 6. Pink mat skin     |
| 7. Yellow mat skin       | 8. Brown mat skin    |
| 9. Purple mat skin       | 10. Blue mat skin    |
| 11. Orange mat skin      |                      |

Note: (1) N.D. = Not detected. (<MDL)  
(2) MDL = Method Detection Limit

### Picture of Sample as Received :



\*\*\* End of Report \*\*\*

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