



Test Report No. F690101/LF-CTSAYHA15-06840R2 Issued Date : 2015. 07. 31 Page 1 of 10

I&S CO., LTD.
172 Hojuk, Hwasanro, Oksanmyeon
Cheongwongun, Chungbuk
Korea

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

SGS File No. : AYHA15-06840R2
Sample Description : DWINGULER CASTLE
Detail of Sample : Plastic castle.
Style no./Item no. : -
Order No. : -
Packaging : Yes
Instructions for use/assembly : Yes
Buyer : -
Manufacturer : I&S CO., LTD.
Country of Origin : KOREA
Country of Destination : -
Labeled age grading : 12 Months and over
Requested age : None
SGS assessed age (based on CR 14379/ASTM F963) : All ages
Received Date : 2015. 07. 01
Resubmitted Sample Date : 2015. 07. 23
Test Period : 2015. 07. 01 to 2015. 07. 30
Test Method : For further details, please refer to following page (s)
Test Results : For further details, please refer to following page (s)
Supersedes /Referral : This test report supersedes previous report number, "F690101/LF-CTSAYHA15-06840R1" issued by SGS Korea.
Result Summary :

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Test Report

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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) (Selected specimen(s) was/were tested as specified by the applicant, please refer to test result page(s) for details.)	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
4.10	Parts moving against each other	Pass
4.14	Enclosure	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
	Drop test(Test method 8.5)	Pass
	Impact test(Test method 8.7)	Pass
	Compression test(Test method 8.8)	Pass
	Sharp edge(Test method 8.11)	Pass
	Sharp point(Test method 8.12)	Pass
	5.1c Potential hazardous metal points and wires with a cross section of 2mm or less	Pass

- 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

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	Absent	See note1
CE mark	Absent	See note2
Importer's Name & Address	Absent	See note3
Manufacturer's Name & Address	Absent	See note3
Product ID	Absent	See note4

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 soak washed. 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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Test Results :

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 (mg/kg)
	1-5	6	7		
Mass of trace amount (mg)	--	--	--	--	--
Soluble Aluminium (Al)	ND	ND	ND	50	70,000
Soluble Antimony (Sb)	ND	ND	ND	10	560
Soluble Arsenic (As)	ND	ND	ND	10	47
Soluble Barium (Ba)	ND	ND	ND	50	18,750
Soluble Boron (B)	ND	ND	ND	50	15,000
Soluble Cadmium (Cd)	ND	ND	ND	5	17
Soluble Chromium (Cr)	ND	ND	ND	0.15	--
Soluble Chromium (III) (Cr (III))	ND	ND	ND	1	460
Soluble Chromium (VI) (Cr (VI))	ND	ND	ND	0.18	0.2
Soluble Cobalt (Co)	ND	ND	ND	10	130
Soluble Copper (Cu)	ND	ND	ND	50	7,700
Soluble Lead (Pb)	ND	ND	ND	10	160
Soluble Manganese (Mn)	ND	ND	ND	50	15,000
Soluble Mercury (Hg)	ND	ND	ND	10	94
Soluble Nickel (Ni)	ND	ND	ND	10	930
Soluble Selenium (Se)	ND	ND	ND	10	460
Soluble Strontium (Sr)	ND	ND	ND	50	56,000
Soluble Tin (Sn)	ND	ND	ND	4.9	180,000
Soluble Organic Tin --	ND	ND	ND	--	12
Soluble Zinc (Zn)	ND	ND	ND	50	46,000
Comment	PASS	PASS	PASS	--	--

Sample Description :

- | | |
|----------------------------------|-----------------------------|
| 1. Red plastic (body) | 2. Sky blue plastic (body) |
| 3. White rubber (bottom of body) | 4. Pink plastic (telephone) |
| 5. Yellow plastic (body) | 6. Yellow plastic (switch) |
| 7. Red plastic (house animal) | |

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Test Results :

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 (mg/kg)
	8-15			
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		1	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	--		--	12
Soluble Zinc (Zn)	ND		50	46,000
Comment	PASS		--	--

Sample Description :

- | | |
|-----------------------------------|-------------------------------|
| 8. Blue plastic (door protection) | 9. Yellow plastic (dial) |
| 10. Blue plastic (gear) | 11. Blue plastic (inner dial) |
| 12. Yellow plastic (gear) | 13. Red plastic (gear) |
| 14. Red plastic (ball) | 15. Blue plastic (ball) |

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Test Results :

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 (mg/kg)
	16	17	18	19		
Mass of trace amount (mg)	--	--	--	--	--	--
Soluble Aluminium (Al)	ND	ND	ND	ND	50	70,000
Soluble Antimony (Sb)	ND	ND	ND	ND	10	560
Soluble Arsenic (As)	ND	ND	ND	ND	10	47
Soluble Barium (Ba)	ND	ND	ND	ND	50	18,750
Soluble Boron (B)	ND	ND	ND	ND	50	15,000
Soluble Cadmium (Cd)	ND	ND	ND	ND	5	17
Soluble Chromium (Cr)	ND	ND	ND	ND	0.15	--
Soluble Chromium (III) (Cr (III))	ND	ND	ND	ND	1	460
Soluble Chromium (VI) (Cr (VI))	ND	ND	ND	ND	0.18	0.2
Soluble Cobalt (Co)	ND	ND	ND	ND	10	130
Soluble Copper (Cu)	ND	ND	ND	ND	50	7,700
Soluble Lead (Pb)	ND	ND	ND	ND	10	160
Soluble Manganese (Mn)	ND	ND	ND	ND	50	15,000
Soluble Mercury (Hg)	ND	ND	ND	ND	10	94
Soluble Nickel (Ni)	ND	ND	ND	ND	10	930
Soluble Selenium (Se)	ND	ND	ND	ND	10	460
Soluble Strontium (Sr)	ND	ND	ND	ND	50	56,000
Soluble Tin (Sn)	ND	ND	ND	ND	4.9	180,000
Soluble Organic Tin --	ND	ND	ND	ND	--	12
Soluble Zinc (Zn)	ND	ND	ND	ND	50	46,000
Comment	PASS	PASS	PASS	PASS	--	--

Sample Description :

- | | |
|---------------------------------|---|
| 16. Transparency plastic (ball) | 17. Yellow green plastic (rabbit, prop) |
| 18. Blue plastic (bear) | 19. White plastic (door protection) |

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Test Results :

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 (mg/kg)
	20	21	22		
Mass of trace amount (mg)	38.4	97.8	12.8	--	--
Soluble Aluminium (Al)	ND	ND	1,110	50	70,000
Soluble Antimony (Sb)	ND	ND	ND	10	560
Soluble Arsenic (As)	ND	ND	ND	10	47
Soluble Barium (Ba)	ND	ND	1,070	50	18,750
Soluble Boron (B)	ND	ND	ND	50	15,000
Soluble Cadmium (Cd)	ND	ND	ND	5	17
Soluble Chromium (Cr)	ND	0.45	4.39	0.15	--
Soluble Chromium (III) (Cr (III))	ND	ND	ND	1	460
Soluble Chromium (VI) (Cr (VI))	ND	ND	ND	0.18	0.2
Soluble Cobalt (Co)	ND	ND	ND	10	130
Soluble Copper (Cu)	ND	ND	ND	50	7,700
Soluble Lead (Pb)	ND	ND	ND	10	160
Soluble Manganese (Mn)	ND	ND	ND	50	15,000
Soluble Mercury (Hg)	ND	ND	ND	10	94
Soluble Nickel (Ni)	ND	ND	ND	10	930
Soluble Selenium (Se)	ND	ND	ND	10	460
Soluble Strontium (Sr)	ND	ND	ND	50	56,000
Soluble Tin (Sn)	ND	ND	ND	4.9	180,000
Soluble Organic Tin --	ND	ND	ND	--	12
Soluble Zinc (Zn)	ND	ND	704	50	46,000
Comment	PASS	PASS	PASS	--	--

Sample Description :

- 20. Transparency coating film (sticker)
- 21. Sticker
- 22. Blue paint (door protection)

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Test Item(s)	Soluble Organic Tin Result(s) (mg/kg)		MDL (mg/kg)
	1-22		
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. Red plastic (body) | 2. Sky blue plastic (body) |
| 3. White rubber (bottom of body) | 4. Pink plastic (telephone) |
| 5. Yellow plastic (body) | 6. Yellow plastic (switch) |
| 7. Red plastic (house animal) | 8. Blue plastic (door protection) |
| 9. Yellow plastic (dial) | 10. Blue plastic (gear) |
| 11. Blue plastic (inner dial) | 12. Yellow plastic (gear) |
| 13. Red plastic (gear) | 14. Red plastic (ball) |
| 15. Blue plastic (ball) | 16. Transparency plastic (ball) |
| 17. Yellow green plastic (rabbit, prop) | 18. Blue plastic (bear) |
| 19. White plastic (door protection) | 20. Transparency coating film (sticker) |
| 21. Sticker | 22. Blue paint (door protection) |

- Note.
1. mg/kg = milligram per kilogram
 2. ND = Not Detected
 3. 1% = 10000 mg/kg = 10000 ppm
 4. The test part was selected by applicant's request.

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Picture of Sample as Received :



*** End of Report ***

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