

TEST REPORT

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The results relate only to the item tested.

Number: BKKH20009162S1

Applicant: DILEMMA GAMES LTD.
63/2 MOO 3 NONGHARN SUB-DISTRICT,
SANSAI DISTRICT, CHIANGMAI THAILAND 50290
ATTN: K. PEMIKA

Issued Date: Sep 15, 2020

**This report supersedes
The previous report
Date Sep 11, 2020**

Sample Submitted:

Quantity of sample: Two (2) sets
Sample description: Wooden toy
Date sample received: August 28, 2020
Date sample resubmitted: September 10, 2020
Date information submitted: September 14, 2020

Client Information:

Item Name: ATM Puzzle / Woods Dilemma
46266 CURRENCY VAULT (ATM) / 40136 GOLF BALL DILEMMA

Label Age grading: 3+
Product End use: Monkey Pod Wood
Country of Origin: Thailand



Test conducted:

As requested by the applicant, for details please refer to attached page(s)

For and on behalf of :
Intertek Testing Services (Thailand) Ltd.,
Hardlines Laboratory



Ladtaka Wongwibooporn
Operation Manager
Hardlines Department



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Conclusion:

<u>Tested samples</u>	<u>Standard</u>	<u>Result</u>
Submitted sample	EN71-1 : 2014+A1:2018 - Mechanical and physical properties excluding labelling requirement of clause 7	Pass
	EN71-2 : 2011 + A1:2014 - Flammability test	Pass
	EN71-3 : 2019 - Migration of certain elements	Pass
	U.S. Consumer product safety improvement Act 2008(H.R. 4040) Title I, Section 101 For total lead content in surface coating	Pass
	U.S. Consumer Product Safety Improvement Act 2008 (H.R. 4040) Title I, Section 101 for total Lead Content in Non-surface coating material (substrate)	Pass
	US 16 CFR Part 1307 for Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates	Pass

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Number: BKKH20009162S1

Test conducted:

- 1 Mechanical and Physical Test
1.1 ATM Puzzle

Test standard: European Standard on Safety of toys EN71-1 : 2014 + A1 : 2018

Applicant's specified testing age : For ages over 3 years

Clause	Testing items	Assessment
4	General requirements	
4.1	Material cleanliness	P
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7	Edges	P
4.8	Points and metallic wires	P
4.9	Protruding parts	NA
4.10	Parts moving against each other	NA
4.11 (4.11 c and e [▲])	Mouth actuated toys and other toys intended to be put in the mouth	NA
4.12	Balloons	NA
4.13 [▲]	Cords of toy kites and other flying toys	NA
4.14	Enclosures	NA
4.15	Toys intended to bear the mass of a child	NA
4.16	Heavy immobile toys	NA
4.17	Projectile toys	NA
4.18	Aquatic toys and inflatable toys	NA
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	NA
4.20	Acoustics	NA
4.21 [▲]	Toys containing non-electrical heat source	NA
4.22	Small balls	NA
4.23	Magnets	NA
4.24 [▲]	Yo-yo balls	NA
4.25	Toys attached to food	NA
4.26 [▲]	Toy Disguise Costumes	NA
4.27 [▲]	Flying toys	NA
5	Toys intended for children under 36 months	

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Test conducted:

Clause	Testing items	Assessment
5.1	General requirements for children under 36 months	NA
5.2	Soft-filled toys and soft-filled parts of a toy	NA
5.3	Plastic sheeting	NA
5.4	Cords, chains and electrical cables in toys	NA
5.5	Liquid filled toys	NA
5.6	Speed limitation of electrically-driven ride-on toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size of certain toys	NA
5.9	Toys comprising monofilament fibres	NA
5.10	Small balls	NA
5.11	Play figures	NA
5.12	Hemispheric-shaped toys	NA
5.13	Suction cups	NA
5.14	Straps intended to be worn fully or partially around the neck	NA
5.15▲	Sledges with cords for pulling	NA
6	Packaging	NA
7	Warnings, markings and instructions for use	See remark
7.1	General	NA
7.2	Toys not intended for children under 36 months	NA
7.3	Latex balloons	NA
7.4	Aquatic toys	NA
7.5	Functional toys	NA
7.6	Hazardous sharp functional edges and points	NA
7.7	Projectile toys	NA
7.8	Imitation protective masks and helmets	NA
7.9	Toy kites	NA
7.10	Roller skates, inlineskates and skateboards and certain other ride-on toys	NA
7.11	Toys otherwise intended to be strung across a cradle, cot, or perambulator	NA
7.12	Liquid-filled teethingers	NA
7.13	Percussion caps specifically designed for use in toys	NA
7.14	Acoustics	NA
7.15	Toy bicycles	NA
7.16	Toys intended to bear the mass of a child	NA
7.17	Toys comprising monofilament fibres	NA
7.18	Toy scooters	NA
7.19	Rocking horses and similar toys	NA
7.20	Magnetic/electrical experimental sets	NA

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Test conducted:

Mechanical and Physical Test

1.2 Woods Dilemma

Test standard: European Standard on Safety of toys EN71-1 : 2014 + A1 : 2018

Applicant's specified testing age : For ages over 3 years

Clause	Testing items	Assessment
4	General requirements	
4.1	Material cleanliness	P
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7	Edges	P
4.8	Points and metallic wires	P
4.9	Protruding parts	NA
4.10	Parts moving against each other	NA
4.11 (4.11 c and e▲)	Mouth actuated toys and other toys intended to be put in the mouth	NA
4.12	Balloons	NA
4.13▲	Cords of toy kites and other flying toys	NA
4.14	Enclosures	NA
4.15	Toys intended to bear the mass of a child	NA
4.16	Heavy immobile toys	NA
4.17	Projectile toys	NA
4.18	Aquatic toys and inflatable toys	NA
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	NA
4.20	Acoustics	NA
4.21▲	Toys containing non-electrical heat source	NA
4.22	Small balls	P
4.23	Magnets	NA
4.24▲	Yo-yo balls	NA
4.25	Toys attached to food	NA
4.26▲	Toy Disguise Costumes	NA
4.27▲	Flying toys	NA
5	Toys intended for children under 36 months	

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Test conducted:

Clause	Testing items	Assessment
5.1	General requirements for children under 36 months	NA
5.2	Soft-filled toys and soft-filled parts of a toy	NA
5.3	Plastic sheeting	NA
5.4	Cords, chains and electrical cables in toys	NA
5.5	Liquid filled toys	NA
5.6	Speed limitation of electrically-driven ride-on toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size of certain toys	NA
5.9	Toys comprising monofilament fibres	NA
5.10	Small balls	NA
5.11	Play figures	NA
5.12	Hemispheric-shaped toys	NA
5.13	Suction cups	NA
5.14	Straps intended to be worn fully or partially around the neck	NA
5.15▲	Sledges with cords for pulling	NA
6	Packaging	NA
7	Warnings, markings and instructions for use	See remark
7.1	General	P
7.2	Toys not intended for children under 36 months	P
7.3	Latex balloons	NA
7.4	Aquatic toys	NA
7.5	Functional toys	NA
7.6	Hazardous sharp functional edges and points	NA
7.7	Projectile toys	NA
7.8	Imitation protective masks and helmets	NA
7.9	Toy kites	NA
7.10	Roller skates, inlineskates and skateboards and certain other ride-on toys	NA
7.11	Toys otherwise intended to be strung across a cradle, cot, or perambulator	NA
7.12	Liquid-filled teethingers	NA
7.13	Percussion caps specifically designed for use in toys	NA
7.14	Acoustics	NA
7.15	Toy bicycles	NA
7.16	Toys intended to bear the mass of a child	NA
7.17	Toys comprising monofilament fibres	NA
7.18	Toy scooters	NA
7.19	Rocking horses and similar toys	NA
7.20	Magnetic/electrical experimental sets	NA

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Test conducted:

2 Flammability Test
2.1 ATM Puzzle

Test Standard : European Standard on Safety of Toys EN71-2:2011 + A1:2014

Clause	Testing items	Assessment
4.1	General	P
4.2	Toys to be worn on the head	NA
4.3	Toy disguise costumes and toys intended to be worn by a child in play	NA
4.4	Toys intended to be entered by a child	NA
4.5	Soft filled toys	NA

Remark : P = Pass NA= Not applicable

Testing period : August 28, 2020 to September 01, 2020

Flammability Test
2.2 Woods Dilemma

Test Standard : European Standard on Safety of Toys EN71-2:2011 + A1:2014

Clause	Testing items	Assessment
4.1	General	P
4.2	Toys to be worn on the head	NA
4.3	Toy disguise costumes and toys intended to be worn by a child in play	NA
4.4	Toys intended to be entered by a child	NA
4.5	Soft filled toys	NA

Remark : P = Pass NA= Not applicable

Testing period : August 28, 2020 to September 01, 2020

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Number: BKKH20009162S1

Test conducted:

3 19 Toxic elements migration test

(A) Test result

With reference to EN 71-3: 2019. Determined by ICP-MS, LC-ICP-MS and GC-MS.

Category (III): Scraped-off toy material

Element (Soluble)	Result in mg/kg					LOD in mg/kg	LOQ in mg/kg	Limit in mg/kg
	(1)	(2)	(3)	(4)	(5)			
Aluminium (Al)	ND	8	ND	ND	ND	1	5	70000
Antimony (Sb)	ND	ND	ND	ND	ND	1	5	560
Arsenic (As)	ND	ND	ND	ND	ND	0.02	0.1	47
Barium (Ba)	ND	<5	ND	ND	ND	1	5	18750
Boron (B)	ND	<5	ND	ND	ND	1	5	15000
Cadmium (Cd)	ND	ND	ND	ND	<0.1	0.02	0.1	17
Chromium (Cr) ^Δ	<0.04	0.101	0.080	<0.04	8.662	0.01	0.04	-
Chromium (III) (Cr III) [▲]	NC	0.101	0.080	NC	8.662	-	-	460
Chromium (VI) (Cr VI) [▲]	NC	<0.025#	<0.025#	NC	<0.025#	-	0.025	0.053
Cobalt (Co)	ND	ND	ND	ND	ND	0.20	1	130
Copper (Cu)	ND	ND	ND	ND	ND	1	5	7700
Lead (Pb)	ND	ND	ND	ND	ND	0.20	1	23
Manganese (Mn)	ND	ND	ND	ND	ND	1	5	15000
Mercury (Hg)	ND	ND	ND	ND	ND	0.20	1	94
Nickel (Ni)	ND	ND	ND	ND	ND	1	5	930
Selenium (Se)	ND	ND	ND	ND	ND	1	5	460
Strontium (Sr)	19	7	ND	ND	ND	1	5	56000
Tin (Sn) ^{ΔΔ}	ND	ND	<1	ND	ND	0.20	1	180000
Organic tin [▲]	NC	NC	NC	NC	NC	1	3	12
Zinc (Zn)	ND	656	ND	ND	4507	1	5	46000

Tested component:

- (1) = Wooden (Base)
- (2) = Lacquer coating on wood
- (3) = White plastic (Golf)
- (4) = Transparent Clear plastic
- (5) = Silver Metal
- (6) = Red/Black/Green printed on plastic (Golf)@

Testing period: August 28, 2020 to September 08, 2020



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Test conducted:

- Remark:
- mg/kg = Milligram per kilogram = ppm
 - < = Less than
 - NC = Not conducted
 - ND = Not detected (Less than LOD)
 - LOD = Limit of Detection
 - LOQ = Limit of Quantitation
 - ▲ = Tested items are not included in the TISI Accreditation
 - Δ = 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).
 - ΔΔ = If the migration of total Tin is below the maximum limit for Organic Tin, it can be inferred that the material complies with the requirements for Organic Tin.
 - The new lead migration limit [(2.0mg/kg for Category (I), 0.5mg/kg for category (II) and 23 mg/kg for Category (III)] was quoted from directive (EU) 2017/738 amending 2009/48/EC effective from 28 October 2018.
 - The new chromium (VI) migration limit (0.053mg/kg) for Category (III) was quoted from directive (EU) Directive 2018/725 amending 2009/48/EC effective from 18 November 2019.
 - Organic tin test result was expressed as tributyl tin.
 - # = Confirmation of Chromium (VI) test was performed on the tested component. And the reported value of migration of Chromium (III) = migration value of total Chromium – migration value of Chromium(VI).

@: Since the sample weight of the component was less than 10 mg, soluble heavy metal analysis was not applicable.

Comment:

When tested as specified, the results of the tested components MET the 19 toxic elements limits of the European Council Directive 2009/48/EC and amendment 2012/7/EU on the Safety of Toys.



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Test conducted:

4 Total Lead (Pb) Content in Surface Coating

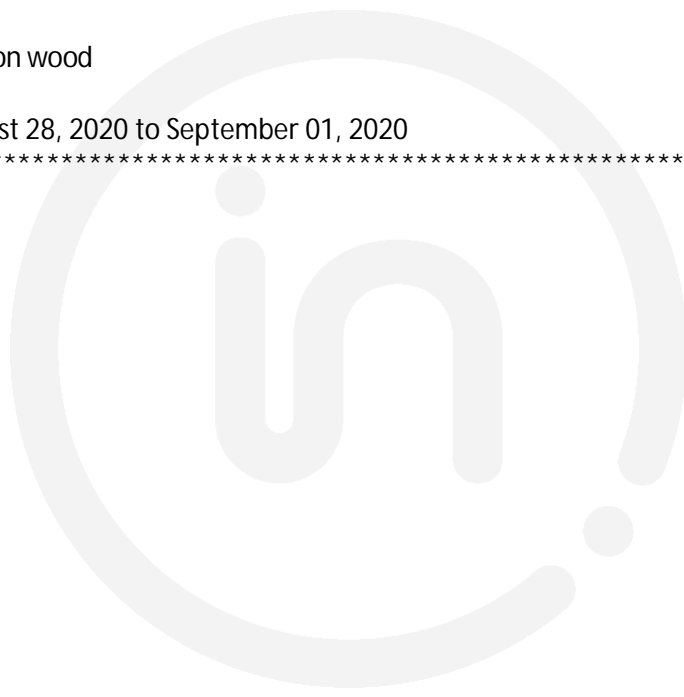
As per U.S. Consumer Product Safety Improvement Act of 2008 (H.R. 4040), Title I, Section 101 for children's products containing Lead, CPSC-CH-E1003-09.1:2011 method was used and total Lead content was determined by ICP-OES analysis.

<u>Tested component</u>	<u>Result</u> (mg/kg)	<u>LOD</u> (mg/kg)	<u>LOQ</u> (mg/kg)	<u>Limit</u> (mg/kg)
(2)	ND	2	13	90

Remark: mg/kg = Milligram per kilogram based on weight of sample; = ppm = Parts per million
 ND = Not detected (Less than LOD)
 LOD = Limit of Detection
 LOQ = Limit of Quantitation

Tested component:
 (2) = Lacquer coating on wood

Testing period: August 28, 2020 to September 01, 2020



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Test conducted:

- 5 Total Lead (Pb) Content in Substrate Material- Non- Metal Children's Product
As per U.S. Consumer Product Safety Improvement Act of 2008 (H.R. 4040), Title I, Section 101 for children's products containing Lead, CPSC-CH-E1002-08.3:2012 method was used and total Lead content was determined by ICP-OES analysis.

<u>Tested component</u>	<u>Result</u> <u>(mg/kg)</u>	<u>LOD</u> <u>(mg/kg)</u>	<u>LOQ</u> <u>(mg/kg)</u>	<u>Limit</u> <u>(mg/kg)</u>
(4)	ND	1	13	100
(6)	ND	1	13	100

Remark: mg/kg = Milligram per kilogram based on weight of sample; = ppm = Parts per million
 ND = Not detected (Less than LOD)
 LOD = Limit of Detection
 LOQ = Limit of Quantitation

Tested component:
 (4) = Transparent Clear plastic
 (6) = White plastic with print (Golf)

Testing period: August 28, 2020 to September 01, 2020

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Number: BKKH20009162S1

Test conducted:

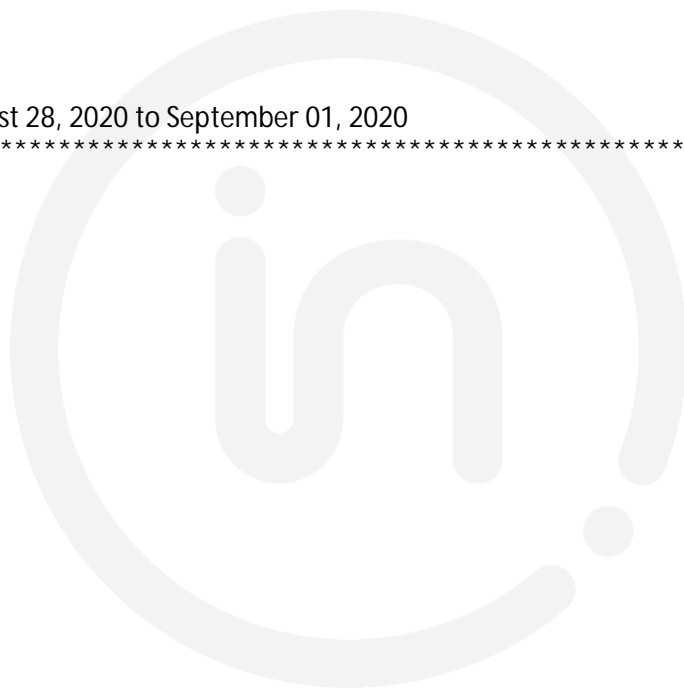
- 6 Total Lead (Pb) Content in Substrate Material- Children's Metal Product
As per U.S. Consumer Product Safety Improvement Act of 2008 (H.R. 4040), Title I, Section 101 for children's products containing Lead, CPSC-CH-E1001-08.3:2012 method was used and total Lead content was determined by ICP-OES analysis.

<u>Tested component</u>	<u>Result</u>	<u>LOD</u>	<u>LOQ</u>	<u>Limit</u>
(5)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
	ND	2	13	100

Remark: mg/kg = Milligram per kilogram based on weight of sample; = ppm = Parts per million
 ND = Not detected (Less than LOD)
 LOD = Limit of Detection
 LOQ = Limit of Quantitation

Tested component:
(5) = Silver Metal

Testing period: August 28, 2020 to September 01, 2020



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Test conducted:

7 Phthalate Content Test

As per Standard Operating Procedure for Determining Phthalates, test method CPSC-CH-C1001-09.4:2018 was used and phthalate content was determined by GC-MS analysis.

		<u>Result</u> (%, w/w)		<u>LOD</u> (%,w/w)	<u>LOQ</u> (%,w/w)	<u>(16CFR1307)</u> <u>Limit (%, w/w)</u> (max.)
	(2)	(4)	(6)			
1) Dibutyl phthalate (DBP)	0.0052	ND	ND	0.0015	0.0030	0.1
2) Diethyl hexyl phthalate (DEHP)	0.0040	ND	0.0043	0.0015	0.0030	0.1
3) Benzyl butyl phthalate (BBP)	ND	ND	ND	0.0015	0.0030	0.1
4) Diisononyl phthalate (DINP)	ND	ND	ND	0.0015	0.0090	0.1
5) Di-n-octyl phthalate (DNOP)	ND	ND	ND	0.0015	0.0030	--
6) Diisodecyl phthalate (DIDP)	ND	ND	ND	0.0015	0.0090	--
7) Di-isobutyl phthalate (DIBP)	ND	ND	ND	0.0015	0.0030	0.1
8) Di-n-pentyl phthalate (DPENP)	ND	ND	ND	0.0015	0.0030	0.1
9) Di-n-hexyl phthalate (DHEXP)	ND	ND	ND	0.0015	0.0030	0.1
10) Di-cyclohexyl phthalate (DCHP)	ND	ND	ND	0.0015	0.0030	0.1

Remark : The above limit was quoted according to US 16 CFR Part 1307 for Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates except the Phthalate no.5-6 was conducted as per applicant requested only.
%, w/w = Percentage weight by weight
LOD = Limit of Detection
LOQ = Limit of Quantitation
ND = Not detected (Less than LOD)

Tested Component :

- (2) = Lacquer coating on wood
- (4) = Transparent Clear plastic
- (6) = White plastic with print (Golf)

Testing period : August 28, 2020 to September 01, 2020

***** E N D ***** /AC/KS/NK

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