

## TEST REPORT

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The results relate only to the item tested.

Number: BKKH18013305

Applicant: PLAN CREATIONS CO., LTD.  
8 MOO 8, TRANG-PALIAN RD.,  
YANTAKAO, TRANG, THAILAND 92140  
ATTN: K.NARONG, K.SUPAPORN

Date: Dec 17, 2018

### Sample description:

Quantity of sample:	One (1) set
Sample description:	Wooden toy
Date sample received:	October 04, 2018
Date information received:	December 03, 2018

### Client Information:

One (1) set of submitted sample said to be SPINNING TOPS

Item Name: SPINNING TOPS  
Item Number: 4132



### Test conducted:

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

To be continued

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

*Ladtaka W.*

Ladtaka Wongwiboonporn  
Laboratory Manager  
Hardlines Department

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### Conclusion:

#### Tested samples

Submitted sample

#### Standard

U.S. ASTM F963-17 for Physical and mechanical tests

#### Result

Pass

U.S. ASTM F963-17 for Flammability test of materials  
other than textile materials

Pass

U.S. ASTM F963-16 for Heavy elements Test

Pass

#### Standard - U.S. CFR title 16

(CPSC regulations)

Part 1303 total Lead content

Pass

#### Standard

U.S. Consumer product safety improvement  
Act 2008(H.R. 4040) Title I, Section 101  
For total lead content in surface coating

Pass

US 16 CFR Part 1307 for Prohibition of Children's Toys  
and Child Care Articles Containing Specified Phthalates

Pass

Phthalate Content Requirement base  
on the California Proposition 65

Pass

Illinois Lead Poisoning Prevention  
Act 410 ILCS 45 section 6 (public act 095-1019)

Pass

Remark: As requested by the applicant, the test was conducted only on components listed in this report.  
Other components were not tested.

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**Remark:**

The chemical test results was not conducted on the below components of samples. Applicant claimed the components were tested on our previous test report.

<u>Components</u>	<u>Report No.</u>	<u>Date</u>
<u>ASTM F963-16: Heavy metal</u>		
BROWN COATING ON WOOD	BKKH18008771	Jul 12, 2018
LACQUER COATING ON WOOD	BKKH18008771	Jul 12, 2018
BLUE COATING ON WOOD (320C)	BKKH18008773	Jul 12, 2018
BLUE COATING ON WOOD (8770)	BKKH18008770	Jul 12, 2018
BLUE COATING ON WOOD	BKKH18009125	Jul 18, 2018
<u>Lead in surface coating</u>		
BROWN COATING ON WOOD	BKKH18008771	Jul 12, 2018
LACQUER COATING ON WOOD	BKKH18008771	Jul 12, 2018
BLUE COATING ON WOOD (320C)	BKKH18008773	Jul 12, 2018
BLUE COATING ON WOOD (8770)	BKKH18008770	Jul 12, 2018
BLUE COATING ON WOOD	BKKH18009125	Jul 18, 2018
<u>Phthalate content</u>		
BROWN COATING ON WOOD	BKKH18008771	Jul 12, 2018
LACQUER COATING ON WOOD	BKKH18008771	Jul 12, 2018
BLUE COATING ON WOOD (320C)	BKKH18008773	Jul 12, 2018
BLUE COATING ON WOOD (8770)	BKKH18008770	Jul 12, 2018
BLUE COATING ON WOOD	BKKH18009125	Jul 18, 2018

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Test conducted:

### 1 Physical And Mechanical Tests<sup>▲</sup>

Test Standard : ASTM Standard Consumer Safety Specification for Toy Safety F963-17.

Age group for testing : For age 3-99 years

The submitted samples were undergone the use and abuse tests in accordance with the Federal Hazardous Substances Act (FHSA), Title 16, Code of Federal Regulations : -

<u>Test</u>	<u>FHSA</u>	<u>Parameter</u>
Drop test	Section 1500.52(b)	4 x 3.0 ft
Torque test	Section 1500.53(e)	4 in-lbf
Tension test	Section 1500.53(f)	15 lbf
Compression test	Section 1500.53(g)	30 lbf

<u>Clause</u>	<u>Testing items</u>	<u>Assessment</u>
4.1	Material quality	P
4.5	Sound-producing toys	NA
4.6.1	Toys intended for children under 36 months (small objects)	NA
4.6.2	Mouth-actuated toys	NA
4.6.3	Toys and games for 36 months to 72 months (small part warning)	NA
4.7	Accessible edges	P
4.8	Projections	NA
4.9	Accessible points	P
4.10	Wires or rods	NA
4.11	Nails and fasteners	NA
4.12	Plastic film	NA
4.13	Folding mechanisms and hinges	NA
4.14	Cords, straps and elastics	NA
4.15	Stability and over-load requirements	NA
4.16	Confined spaces	NA
4.17	Wheels, tires and axles	NA
4.18	Holes, clearance, and accessibility of mechanisms	NA
4.19	Simulated protective devices	NA
4.20	Pacifiers	NA
4.21	Projectile toys	NA
4.22	Teethers and teething toys	NA

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Test conducted:

Clause	Testing items	Assessment
4.23	Rattles	NA
4.24	Squeeze toys	NA
4.25	Battery-operated toys	NA
4.26	Toys intended to be attached to a crib or playpen	NA
4.27	Stuffed and beanbag-type toys	NA
4.28	Stroller and carriage toys	NA
4.29	Art materials	NA
4.30	Toy gun marking	NA
4.31	Balloons	NA
4.32	Certain toys with nearly spherical ends	NA
4.33	Marbles	NA
4.34	Balls	NA
4.35	Pompoms	NA
4.36	Hemispheric-shaped objects	NA
4.37	Yoyo elastic tether toys	NA
4.38	Magnets	NA
4.39	Jaw entrapment in handles and steering wheels	NA
4.40	Expanding materials	NA
4.41	Toy chests	NA
5	Labelling requirement	P
6	Instructional literature	P
7	Producer's markings	Yes
	- name of producer (toy and package)	Yes
	- address (package)	Yes

Remark : P = Pass NA = Not applicable

▲ = Tested items are not included in the TISI Accreditation

The submitted samples were undergone the tests in accordance with clause 8.5 through clause 8.17 and 8.19 through 8.26 on normal use, abuse and specific tests for different types of toys whichever is applicable.

Testing period : October 04, 2018 to October 09, 2018

### 2 Flammability Test▲

Test Standard : Clause 4.2 of the ASTM Standard Consumer Safety Specification for Toy Safety F963-17.

Results : Did not ignite

▲ = Tested items are not included in the TISI Accreditation

Testing period : October 04, 2018 to October 09, 2018

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Test conducted:

### 3 Heavy Elements Analysis

As per clause 4.3.5.1(2) of the ASTM Standard Consumer Safety Specification on Toy Safety F963-16, acid extraction method was used and heavy elements migration content were determined by ICP-OES analysis.

	<u>Result</u> <u>mg/kg</u>					<u>LOD</u> <u>mg/kg</u>	<u>LOQ</u> <u>mg/kg</u>	<u>Limit mg/kg</u>
	(1)	(2)	(3)	(4)	(5)			
Sol. Barium (Ba)	572	<5	<5	9	851	1	5	1000
Sol. Lead (Pb)	ND	ND	ND	<5	ND	1	5	90
Sol. Cadmium (Cd)	ND	ND	ND	ND	ND	1	5	75
Sol. Antimony (Sb)	ND	ND	ND	ND	ND	2	5	60
Sol. Selenium (Se)	ND	ND	ND	ND	ND	1	5	500
Sol. Chromium (Cr)	ND	ND	ND	ND	ND	2	5	60
Sol. Mercury (Hg)	ND	ND	ND	ND	ND	1	5	60
Sol. Arsenic (As)	ND	ND	ND	ND	ND	2	5	25

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

Tested components:

(1) =	BROWN COATING ON WOOD	Refer	BKKH18008771
(2) =	LACQUER COATING ON WOOD	Refer	BKKH18008771
(3) =	BLUE COATING ON WOOD (320C)	Refer	BKKH18008773
(4) =	BLUE COATING ON WOOD (8770)	Refer	BKKH18008770
(5) =	BLUE COATING ON WOOD	Refer	BKKH18009125

Note: The results of soluble toxic elements were adjusted by subtracting the analytical correction factor.

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Test conducted:

### Total Lead (Pb) Content

As per clause 4.3.5.1(1) of the ASTM Standard Consumer Safety Specification on Toy Safety F963-16, test method CPSC-CH-E1003-09.1:2011 was used and total Lead content was determined by ICP-OES analysis.

#### (I) Surface coating

<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>
(1)	ND	2	13	90
(2)	ND	2	13	90
(3)	ND	2	13	90
(4)	<13	2	13	90
(5)	ND	2	13	90

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

#### Tested components:

(1) =	BROWN COATING ON WOOD	Refer	BKKH18008771
(2) =	LACQUER COATING ON WOOD	Refer	BKKH18008771
(3) =	BLUE COATING ON WOOD (320C)	Refer	BKKH18008773
(4) =	BLUE COATING ON WOOD (8770)	Refer	BKKH18008770
(5) =	BLUE COATING ON WOOD	Refer	BKKH18009125

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## 4

As per U.S. Code of Federal Regulations title 16 Part 1303. Acid digestion method was used and

total Lead content was determined by Inductively Couple Plasma Optical Emission Spectrometry.<sup>2</sup>

<u>Tested component</u>	<u>Result %</u>	<u>LOD %</u>	<u>LOQ %</u>	<u>Limit %</u>
(1)	ND	0.0002	0.0013	0.0090
(2)	ND	0.0002	0.0013	0.0090
(3)	ND	0.0002	0.0013	0.0090
(4)	<0.0013	0.0002	0.0013	0.0090
(5)	ND	0.0002	0.0013	0.0090

Remark:

%	=	percentage	<	=	Less than
LOD	=	Limit of Detection	LOQ	=	Limit of Quantitation
ND	=	Not detected (Less than LOD)			
▲	=	Tested items are not included in the TISI Accreditation			

Tested components:

(1) =	BROWN COATING ON WOOD	Refer	BKKH18008771
(2) =	LACQUER COATING ON WOOD	Refer	BKKH18008771
(3) =	BLUE COATING ON WOOD (320C)	Refer	BKKH18008773
(4) =	BLUE COATING ON WOOD (8770)	Refer	BKKH18008770
(5) =	BLUE COATING ON WOOD	Refer	BKKH18009125

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Number: BKKH18013305

Test conducted:

- 5 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 Inductively Couple Plasma Optical Emission Spectrometry.

<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 mg/kg</u>
(1)	ND	2	13	90
(2)	ND	2	13	90
(3)	ND	2	13	90
(4)	<13	2	13	90
(5)	ND	2	13	90

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

Tested components:

- |       |                             |       |              |
|-------|-----------------------------|-------|--------------|
| (1) = | BROWN COATING ON WOOD       | Refer | BKKH18008771 |
| (2) = | LACQUER COATING ON WOOD     | Refer | BKKH18008771 |
| (3) = | BLUE COATING ON WOOD (320C) | Refer | BKKH18008773 |
| (4) = | BLUE COATING ON WOOD (8770) | Refer | BKKH18008770 |
| (5) = | BLUE COATING ON WOOD        | Refer | BKKH18009125 |

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Test conducted:

### 6 Phthalate content

As per CPSC-CH-C1001-09.3:2010 and U.S. Consumer Product Safety Improvement Act 2008 (H.R. 4040), Title I, Section 108 requirement on Phthalates, solvent extraction method was used and Phthalate content was determined by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.☐

	<u>Result</u> (%, w/w)					<u>LOD</u> (%, w/w)	<u>LOQ</u> (%, w/w)	<u>(16CFR1307)</u> Limit (%, w/w)	<u>NPR</u> (%, w/w)
	(1)	(2)	(3)	(4)	(5)				
Dibutyl Phthalate (DBP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di(2-ethylhexyl) phthalate (DEHP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1	0.1
Benzyl butyl Phthalate (BBP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-iso-nonyl Phthalate (DINP)	ND	ND	ND	ND	ND	0.0015	0.0090	0.1	0.1
Di-n-octyl Phthalate (DNOP)	ND	ND	ND	ND	ND	0.0015	0.0030	--	--
Di-iso-decyl Phthalate (DIDP)	ND	ND	ND	ND	ND	0.0015	0.0090	--	--
Di-isobutyl phthalate (DIBP)▲	ND	ND	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-n-pentyl phthalate (DPENP)▲	ND	ND	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-n-hexyl phthalate (DHEXP)▲	ND	ND	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-cyclohexyl phthalate (DCHP)▲	ND	ND	ND	ND	ND	0.0015	0.0030	0.1	0.1
Diisooctyl phthalate (DIOP)▲	ND	ND	ND	ND	ND	0.0015	0.0090	--	--

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.5-6,11 was conducted as per applicant requested only.

NPR = Notice of proposed rulemaking  
%, w/w = Percentage weight by weight  
LOD = Limit of Detection  
LOQ = Limit of Quantitation  
ND = Not detected (Less than LOD)  
▲ = Tested items are not included in the TISI Accreditation

Tested components:

(1) =	BROWN COATING ON WOOD	Refer	BKKH18008771
(2) =	LACQUER COATING ON WOOD	Refer	BKKH18008771
(3) =	BLUE COATING ON WOOD (320C)	Refer	BKKH18008773
(4) =	BLUE COATING ON WOOD (8770)	Refer	BKKH18008770
(5) =	BLUE COATING ON WOOD	Refer	BKKH18009125

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Test conducted:

### 7 Phthalate content test▲

By solvent extraction and Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

	<u>Result</u> (%, w/w)					<u>LOD</u> (%, w/w)	<u>LOQ</u> (%, w/w)	<u>Limit</u> (%, w/w)
	(1)	(2)	(3)	(4)	(5)			
Dibutyl Phthalate (DBP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1
Di(2-ethylhexyl) phthalate (DEHP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1
Benzyl butyl Phthalate (BBP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1
Di-iso-nonyl Phthalate (DINP)	ND	ND	ND	ND	ND	0.0015	0.0090	0.1
Dioctyl Phthalate (DNOP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1
Di-iso-decyl Phthalate (DIDP)	ND	ND	ND	ND	ND	0.0015	0.0090	0.1
Di-n-hexyl Phthalate (DnHP)	ND	ND	ND	ND	ND	0.0015	0.0030	0.1

Remark :     %, w/w = Percentage weight by weight  
                   LOD = Limit of Detection  
                   LOQ = Limit of Quantitation  
                   ND = Not detected (Less than LOD)  
                   ▲ = Tested items are not included in the TISI Accreditation

Note :       The above limit was quoted according to the California Proposition 65

Tested components:

(1) =	BROWN COATING ON WOOD	Refer	BKKH18008771
(2) =	LACQUER COATING ON WOOD	Refer	BKKH18008771
(3) =	BLUE COATING ON WOOD (320C)	Refer	BKKH18008773
(4) =	BLUE COATING ON WOOD (8770)	Refer	BKKH18008770
(5) =	BLUE COATING ON WOOD	Refer	BKKH18009125

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Number: BKKH18013305

Test conducted:

### 8 Total Lead (Pb) Content▲

As per Illinois Lead poisoning prevention act 410 ILCS 45 section 6 (public act 095-1019), acid digestion method was used and total Lead content was determined by Inductively Couple Plasma Optical Emission Spectrometry.

#### I Surface coating material

<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>
(1)	ND	2	13	90
(2)	ND	2	13	90
(3)	ND	2	13	90
(4)	<13	2	13	90
(5)	ND	2	13	90

Remark: < = Less than  
mg/kg = Milligram per kilogram based on weight of sample; = ppm = Parts per million  
LOD = Limit of Detection  
LOQ = Limit of Quantitation  
ND = Not detected (Less than LOD)  
▲ = Tested items are not included in the TISI Accreditation

Requirement: According to Illinois Lead poisoning prevention act 410 ILCS 45 section 6 (public act 095-019), appropriate warning statement is required when the Lead content of the submitted sample is more than 40 ppm but less than 90 ppm for surface coatings and less than 100 ppm for substrates by total weight or a lower standard for Lead content as may be established by federal or state law or regulation.

#### Tested components:

(1) =	BROWN COATING ON WOOD	Refer	BKKH18008771
(2) =	LACQUER COATING ON WOOD	Refer	BKKH18008771
(3) =	BLUE COATING ON WOOD (320C)	Refer	BKKH18008773
(4) =	BLUE COATING ON WOOD (8770)	Refer	BKKH18008770
(5) =	BLUE COATING ON WOOD	Refer	BKKH18009125

Note: LOD and LOQ value in this test report were effective since October, 2014

\*\*\*\*\*END\*\*\*\*\*/KS/NK

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