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The results relate only to the item tested.



Date: Feb 08, 2019

Applicant: PLAN CREATIONS CO., LTD.

8 MOO 8, TRANG-PALIAN RD.,

YANTAKAO, TRANG, THAILAND 92140 ATTN: K.NARONG, K.SUPAPORN

Sample description:

Quantity of sample:

Sample description:

Date sample received:

Date information received:

One (1) set

Wooden toy

August 10, 2018

January 31, 2019

Client Information:

One (1) set of submitted sample said to be Gears & Puzzle-Deluxe / Gear Puzzles-Standard

Item Name: Gears & Puzzle-Deluxe / Gear Puzzles-Standard

Item Number: 5636/5634



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

1 adtds

Ladtaka Wongwiboonporn Laboratory Manager

Hardlines Department

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Tested samples Standard Result Submitted sample U.S. ASTM F963-17 for Physical and mechanical tests Pass U.S. ASTM F963-17 for Flammability test of materials Pass other than textile materials U.S. ASTM F963-16 and ASTM F963-17 **Pass** for Heavy elements Test Standard - U.S. CFR title 16 (CPSC regulations) **Pass** Part 1303 total Lead content Standard U.S. Consumer product safety improvement **Pass** Act 2008(H.R. 4040) Title I, Section 101 For total lead content in surface coating U.S. Consumer product safety improvement **Pass** Act 2008(H.R. 4040) Title I. Section 101 For total lead content in non-surface coating material (substrate) US 16 CFR Part 1307 for Prohibition of Children's Toys **Pass** and Child Care Articles Containing Specified Phthalates

Phthalate Content Requirement base Pass on the California Proposition 65

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

As requested by the applicant, the test was conducted only on components listed in this report.

Other components were not tested.



Pass

Remark:



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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>	Report No.	<u>Date</u>
ASTM F963-16: Heavy metal		
LIGHT GREEN COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
RED COATING ON WOOD	BKKH18008770	Jul 12, 2018
ORANGE COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
BROWN COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
BLUE COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
WHITE COATING ON WOOD	BKKH18008771	Jul 12, 2018
BROWN COATING ON WOOD	BKKH18008771	Jul 12, 2018
GREEN SAWDUST	BKKH18001625	Feb 12, 2018
YELLOW SAWDUST	BKKH18004950	May 02, 2018
PINK SAWDUST	BKKH18011758	Sep 04, 2018
BLUE SAWDUST	BKKH18001625	Feb 12, 2018
ORANGE SAWDUST	BKKH18001625	Feb 12, 2018
ASTM F963-17: Heavy metal		
RED SAWDUST	BKKH18016827	Dec 25, 2018
Lead in surface coating		
LIGHT GREEN COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
RED COATING ON WOOD	BKKH18008770	Jul 12, 2018
ORANGE COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
BROWN COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
BLUE COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
WHITE COATING ON WOOD	BKKH18008771	Jul 12, 2018
BROWN COATING ON WOOD	BKKH18008771	Jul 12, 2018
<u>Lead in substrate</u>		
GREEN SAWDUST	BKKH18001625	Feb 12, 2018
YELLOW SAWDUST	BKKH18004950	May 02, 2018
RED SAWDUST	BKKH18016827	Dec 25, 2018
PINK SAWDUST	BKKH18011758	Sep 04, 2018
BLUE SAWDUST	BKKH18001625	Feb 12, 2018
ORANGE SAWDUST	BKKH18001625	Feb 12, 2018

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Components	Report No.	<u>Date</u>
Phthalate content		
LIGHT GREEN COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
RED COATING ON WOOD	BKKH18008770	Jul 12, 2018
ORANGE COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
BROWN COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
BLUE COATING ON SAWDUST	BKKH18013957	Oct 22, 2018
WHITE COATING ON WOOD	BKKH18008771	Jul 12, 2018
BROWN COATING ON WOOD	BKKH18008771	Jul 12, 2018
GREEN SAWDUST	BKKH18001625	Feb 12, 2018
YELLOW SAWDUST	BKKH18004950	May 02, 2018
RED SAWDUST	BKKH18016827	Dec 25, 2018
PINK SAWDUST	BKKH18011758	Sep 04, 2018
BLUE SAWDUST	BKKH18001625	Feb 12, 2018
ORANGE SAWDUST	BKKH18001625	Feb 12, 2018



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Test conducted:

1 Physical And Mechanical Tests

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

Age group for testing: For age over 2 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: -

 Test
 FHSA
 Parameter

 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>	Assessment
4.1	Material quality	Р
4.5	Sound-producing toys	NA
4.6.1	Toys intended for children under 36 months (small objects)	Р
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	Р
4.8	Projections	NA
4.9	Accessible points	Р
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

Bangkok 10800 Thailand



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Test conducted:

<u>Clause</u>	<u>Testing items</u>	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	Р
6	Instructional literature	P
7	Producer's markings	W
	- 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: August 10, 2018 to August 24, 20198

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

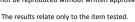
Testing period: August 10, 2018 to August 24, 20198

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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.

			Result			<u>LOD</u>	LOQ	Limit mg/kg
			mg/kg			mg/kg	mg/kg	
	(1)	(2)	(3)	(4)	(5)			
Sol. Barium (Ba)	<5	604	<5	<5	<5	1	5	1000
Sol. Lead (Pb)	ND	ND	ND	ND	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

> Milligram per kilogram based on weight of sample; = ppm = Parts per million mg/kg =Limit of Detection LOD = Limit of Quantitation LOQ =

ND = Not detected (Less than LOD) < = Less than

Tested components:

(1) =	LIGHT GREEN COATING ON SAWDUST	Refer	BKKH18013957
(2) =	RED COATING ON WOOD	Refer	BKKH18008770
(3) =	ORANGE COATING ON SAWDUST	Refer	BKKH18013957
(4) =	BROWN COATING ON SAWDUST	Refer	BKKH18013957
(5) =	BLUE COATING ON SAWDUST	Refer	BKKH18013957

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

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Test conducted:

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.

			Result	LOD	LOQ	Limit mg/kg
			mg/kg	mg/kg	mg/kg	
	(6)	(7)				
Sol. Barium (Ba)	10	572		1	5	1000
Sol. Lead (Pb)	ND	ND		1	5	90
Sol. Cadmium (Cd)	ND	ND		1	5	75
Sol. Antimony (Sb)	ND	ND		2	5	60
Sol. Selenium (Se)	ND	ND		1	5	500
Sol. Chromium (Cr)	ND	ND		2	5	60
Sol. Mercury (Hg)	ND	ND		1	5	60
Sol. Arsenic (As)	ND	ND		2	5	25

Remark: Sol. = Soluble

mg/kg = Milligram per kilogram based on weight of sample; = ppm = Parts per million

LOQ = Limit of Quantitation

ND = Not detected (Less than LOD)

Tested components:

(6) = WHITE COATING ON WOOD

Refer BKKH18008771

(7) = BROWN COATING ON WOOD

Refer BKKH18008771

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





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Test conducted:

Heavy Elements Analysis

As per clause 4.3.5.2(2)(b) of the ASTM Standard Consumer Safety Specification on Toy Safety F963-16 and F963-17 $^{\blacktriangle}$, acid extraction method was used and heavy elements migration content were determined by ICP-OES analysis.

			<u>Result</u>			<u>LOD</u>	<u>LOQ</u>	Limit mg/kg
			mg/kg			mg/kg	mg/kg	
	(8)	(9)	(10)	(11)	(12)			
Sol. Barium (Ba)	<5	<5	ND	ND	<5	1	5	1000
Sol. Lead (Pb)	ND	<5	ND	ND	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
LOQ = Limit of Quantitation

ND = Not detected (Less than LOD) <= Less than

Tested items are not included in the TISI Accreditation

Tested components:

(8) =	GREEN SAWDUST		Refer	BKKH18001625
(9) =	YELLOW SAWDUST		Refer	BKKH18004950
(10) =	RED SAWDUST		Refer	BKKH18016827
(11) =	PINK SAWDUST		Refer	BKKH18011758
(12) =	BLUF SAWDUST		Refer	BKKH18001625

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

(n)



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Test conducted:

Heavy Elements Analysis

As per clause 4.3.5.2(2)(b) 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>LOD</u>	<u>LOQ</u>	Limit mg/kg
		mg/kg	mg/kg	mg/kg	
	(13)				
Sol. Barium (Ba)	<5		1	5	1000
Sol. Lead (Pb)	ND		1	5	90
Sol. Cadmium (Cd)	ND		1	5	75
Sol. Antimony (Sb)	ND		2	5	60
Sol. Selenium (Se)	ND		1	5	500
Sol. Chromium (Cr)	ND		2	5	60
Sol. Mercury (Hg)	ND		1	5	60
Sol. Arsenic (As)	ND		2	5	25

Remark: Sol. = Soluble

mg/kg = Milligram per kilogram based on weight of sample; = ppm = Parts per million LOQ = Limit of Quantitation

ND = Not detected (Less than LOD) <= Less than

Tested components:

(13) = ORANGE SAWDUST Refer BKKH18001625





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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 and F963-17^A, test method CPSC-CH-E1003-09.1:2011 was used and total Lead content was determined by ICP-OES analysis.

(I) Surface coating

Tested Component	<u>Result</u>	LOD	LOQ	<u>Limit</u>
rested component	mg/kg	(mg/kg)	(mg/kg)	<u>(mg/kg)</u>
(1)	ND	2	13	90
(2)	ND	2	13	90
(3)	ND	2	13	90
(4)	ND	2	13	90
(5)	ND	2	13	90
(6)	<13	2	13	90
(7)	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) =	LIGHT GREEN COATING ON SAWDUST	Refer	BKKH18013957
(2) =	RED COATING ON WOOD	Refer	BKKH18008770
(3) =	ORANGE COATING ON SAWDUST	Refer	BKKH18013957
(4) =	BROWN COATING ON SAWDUST	Refer	BKKH18013957
(5) =	BLUE COATING ON SAWDUST	Refer	BKKH18013957
(6) =	WHITE COATING ON WOOD	Refer	BKKH18008771
(7) =	BROWN COATING ON WOOD	Refer	BKKH18008771





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Test conducted:

Total Lead (Pb) Content

As per clause 4.3.5.2(2)(a) of the ASTM Standard Consumer Safety Specification on Toy Safety F963-16, test method CPSC-CH-E1001-08.3:2012, CPSC-CH-E1002-08.3:2012 were used and total Lead content was determined by ICP-OES analysis.

(II) Non-surface coating

Tested Component	<u>Result</u>	LOD LOQ	<u>Limit</u>
rested component	mg/kg	(mg/kg) (mg/kg)	(mg/kg)
(8)	<13	1 13	100
(9)	ND	1 13	100
(10)	<13	1 13	100
(11)	ND	1 13	100
(12)	<13	1 13	100
(13)	<13	1 13	100

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:

(8) =	GREEN SAWDUST		Refer	BKKH18001625
(9) =	YELLOW SAWDUST		Refer	BKKH18004950
(10) =	RED SAWDUST		Refer	BKKH18016827
(11) =	PINK SAWDUST		Refer	BKKH18011758
(12) =	BLUE SAWDUST		Refer	BKKH18001625
(13) =	ORANGE SAWDUST		Refer	BKKH18001625





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Test conducted:

4 Total Lead (Pb) content 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. 2

Tested component	Result %	LOD %	LOQ %	<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)	ND	0.0002	0.0013	0.0090
(5)	ND	0.0002	0.0013	0.0090
(6)	< 0.0013	0.0002	0.0013	0.0090
(7)	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) =	LIGHT GREEN COATING ON SAWDUST	Refer	BKKH18013957
(2) =	RED COATING ON WOOD	Refer	BKKH18008770
(3) =	ORANGE COATING ON SAWDUST	Refer	BKKH18013957
(4) =	BROWN COATING ON SAWDUST	Refer	BKKH18013957
(5) =	BLUE COATING ON SAWDUST	Refer	BKKH18013957
(6) =	WHITE COATING ON WOOD	Refer	BKKH18008771
(7) =	BROWN COATING ON WOOD	Refer	BKKH18008771





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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.

Tested component	<u>Result</u>	<u>LOD</u>	<u>LOQ</u>	<u>Limit mg/kg</u>
	mg/kg	mg/kg	mg/kg	
(1)	ND	2	13	90
(2)	ND	2	13	90
(3)	ND	2	13	90
(4)	ND	2	13	90
(5)	ND	2	13	90
(6)	<13	2	13	90
(7)	ND	2	13	90

Remark:	mg/kg =	Milligram per kil	ogram based o	on weight of s	sample; = ppm =	Parts per million
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LOD = Limit of Detection LOQ = Limit of Quantitation

ND = Not detected (Less than LOD) <= Less than

Tested components:

(1) =	LIGHT GREEN COATING ON SAWDUST	Refer	BKKH18013957
(2) =	RED COATING ON WOOD	Refer	BKKH18008770
(3) =	ORANGE COATING ON SAWDUST	Refer	BKKH18013957
(4) =	BROWN COATING ON SAWDUST	Refer	BKKH18013957
(5) =	BLUE COATING ON SAWDUST	Refer	BKKH18013957
(6) =	WHITE COATING ON WOOD	Refer	BKKH18008771
(7) =	BROWN COATING ON WOOD	Refer	BKKH18008771





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Test conducted:

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 Inductively Couple Plasma Optical Emission Spectrometry.

Tested component	<u>Result</u>	<u>LOD</u>	<u>LOQ</u>	<u>Limit mg/kg</u>
	mg/kg	mg/kg	mg/kg	
(1)	<13	1	13	100
(2)	ND	1	13	100
(3)	<13	1	13	100
(4)	ND	1	13	100
(5)	<13	1	13	100
(6)	<13	1	13	100

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) =	GREEN SAWDUS	iΤ			Refer	BKKH18001625	
(2) =	YELLOW SAWDU	JST			Refer	BKKH18004950	
(3) =	RED SAWDUST				Refer	BKKH18016827	
(4) =	PINK SAWDUST				Refer	BKKH18011758	
(5) =	BLUE SAWDUST				Refer	BKKH18001625	
(6) =	ORANGE SAWDU	JST			Refer	BKKH18001625	
*****	*****	*****	*****	*****	******	******	*****



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The results relate only to the item tested.

Test conducted:

7 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. 2

			<u>Result</u>			<u>LOD</u>	LOQ	(16CFR1307)	<u>NPR</u>
			(%, w/w)	<u>l</u>		(%, w/w)	(%, w/w)	Limit (%, w/w)	(%, 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) =	LIGHT GREEN COATING ON SAWDUST	Refer	BKKH18013957
(2) =	RED COATING ON WOOD	Refer	BKKH18008770
(3) =	ORANGE COATING ON SAWDUST	Refer	BKKH18013957
(4) =	BROWN COATING ON SAWDUST	Refer	BKKH18013957
(5) =	BLUE COATING ON SAWDUST	Refer	BKKH18013957



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The results relate only to the item tested.

Test conducted:

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. 2

			Result			<u>LOD</u>	<u>LOQ</u>	(16CFR1307)	<u>NPR</u>
			(%, w/w)			(%, w/w)	(%, w/w)	<u>Limit (%, w/w)</u>	(%, w/w)
	(6)	(7)	(8)	(9)	(10)				
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:

(6) =	WHITE COATING ON WOOD	Refer	BKKH18008771
(7) =	BROWN COATING ON WOOD	Refer	BKKH18008771
(8) =	GREEN SAWDUST	Refer	BKKH18001625
(9) =	YELLOW SAWDUST	Refer	BKKH18004950
(10) =	RED SAWDUST	Refer	BKKH18016827





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The results relate only to the item tested.

Test conducted:

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. 2

			Result	<u>LOD</u>	<u>LOQ</u>	(16CFR1307)	<u>NPR</u>
			(%, w/w)	(%, w/w)	(%, w/w)	<u>Limit (%, w/w)</u>	(%, w/w)
	(11)	(12)	(13)				
Dibutyl Phthalate (DBP)	<0.0030	ND	ND	0.0015	0.0030	0.1	0.1
Di(2-ethylhexyl) phthalate (DEHP)	ND	ND	ND	0.0015	0.0030	0.1	0.1
Benzyl butyl Phthalate (BBP)	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-iso-nonyl Phthalate (DINP)	ND	ND	ND	0.0015	0.0090	0.1	0.1
Di-n-octyl Phthalate (DNOP)	ND	ND	ND	0.0015	0.0030		
Di-iso-decyl Phthalate (DIDP)	ND	ND	ND	0.0015	0.0090		
Di-isobutyl phthalate (DIBP) ▲	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-n-pentyl phthalate (DPENP) [▲]	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-n-hexyl phthalate (DHEXP)▲	ND	ND	ND	0.0015	0.0030	0.1	0.1
Di-cyclohexyl phthalate (DCHP) [▲]	ND	ND	ND	0.0015	0.0030	0.1	0.1
Diisooctyl phthalate (DIOP) [▲]	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:

(11) =	PINK SAWDUST	Refer	BKKH18011758
(12) =	BLUE SAWDUST	Refer	BKKH18001625
(13) =	ORANGE SAWDUST	Refer	BKKH18001625





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The results relate only to the item tested.

Test conducted:

8 Phthalate content test A

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

			<u>Result</u>			<u>LOD</u>	LOQ	<u>Limit</u>
			(%, w/w)			(%, w/w)	(%, w/w)	(%, 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) =	LIGHT GREEN COATING ON SAWDUST	Refer	BKKH18013957
(2) =	RED COATING ON WOOD	Refer	BKKH18008770
(3) =	ORANGE COATING ON SAWDUST	Refer	BKKH18013957
(4) =	BROWN COATING ON SAWDUST	Refer	BKKH18013957
(5) =	BLUE COATING ON SAWDUST	Refer	BKKH18013957





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The results relate only to the item tested.

Test conducted:

Phthalate content test[▲]

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

			Result			<u>LOD</u>	<u>LOQ</u>	<u>Limit</u>
			(%, w/w)	<u>.</u>		(%, w/w)	(%, w/w)	(%, w/w)
	(6)	(7)	(8)	(9)	(10)			
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:

(6) =	WHITE COATING ON WOOD	R	efer	BKKH18008771
(7) =	BROWN COATING ON WOOD	R	efer	BKKH18008771
(8) =	GREEN SAWDUST	R	efer	BKKH18001625
(9) =	YELLOW SAWDUST	R	efer	BKKH18004950
(10) =	RED SAWDUST	R	efer	BKKH18016827





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The results relate only to the item tested.

Test conducted:

Phthalate content test *

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

			<u>Result</u>	<u>LOD</u> <u>LOQ</u> <u>Lir</u>	<u>nit</u>
			<u>(%, w/w)</u>	(%, w/w) (%, w/w) (%, y	w/w)
	(11)	(12)	(13)		
Dibutyl Phthalate (DBP)	<0.0030	ND	ND	0.0015 0.0030 0	.1
Di(2-ethylhexyl) phthalate (DEHP)	ND	ND	ND	0.0015 0.0030 0	.1
Benzyl butyl Phthalate (BBP)	ND	ND	ND	0.0015 0.0030 0	.1
Di-iso-nonyl Phthalate (DINP)	ND	ND	ND	0.0015 0.0090 0	.1
Dioctyl Phthalate (DNOP)	ND	ND	ND	0.0015 0.0030 0	.1
Di-iso-decyl Phthalate (DIDP)	ND	ND	ND	0.0015 0.0090 0	.1
Di-n-hexyl Phthalate (DnHP)	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:

(11) =	PINK SAWDUST		R	efer	BKKH18011758
(12) =	BLUE SAWDUST		R	efer	BKKH18001625
(13) =	ORANGE SAWDUST		R	efer	BKKH18001625





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The results relate only to the item tested.

Test conducted:

9 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.

Surface coating material ı

Tested component	<u>Result</u>	<u>LOD</u>	<u>LOQ</u>	<u>Limit</u>
	mg/kg	mg/kg	mg/kg	mg/kg
(1)	ND	2	13	90
(2)	ND	2	13	90
(3)	ND	2	13	90
(4)	ND	2	13	90
(5)	ND	2	13	90
(6)	<13	2	13	90
(7)	ND	2	13	90

Remark:

Milligram per kilogram based on weight of sample; = ppm = Parts per million mg/kg =

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)	= LIGHT GREEN COATING ON SAWDUST	Refer	BKKH18013957
(2)	= RED COATING ON WOOD	Refer	BKKH18008770
(3)	= ORANGE COATING ON SAWDUST	Refer	BKKH18013957
(4)	= BROWN COATING ON SAWDUST	Refer	BKKH18013957
(5)	= BLUE COATING ON SAWDUST	Refer	BKKH18013957
(6)	= WHITE COATING ON WOOD	Refer	BKKH18008771
(7)	= BROWN COATING ON WOOD	Refer	BKKH18008771



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The results relate only to the item tested

Test conducted:

II Non-surface coating material (substrate)

Tested component	<u>Result</u>	LOD	<u>LOQ</u>	<u>Limit</u>
	mg/kg	mg/kg	mg/kg	mg/kg
(8)	<13	1	13	100
(9)	ND	1	13	100
(10)	<13	1	13	100
(11)	ND	1	13	100
(12)	<13	1	13	100
(13)	<13	1	13	100

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)

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:

(8)	=	GREEN SAWDUST		Refer	BKKH18001625
(9)	=	YELLOW SAWDUST		Refer	BKKH18004950
(10)	=	RED SAWDUST		Refer	BKKH18016827
(11)	=	PINK SAWDUST		Refer	BKKH18011758
(12)	=	BLUE SAWDUST		Refer	BKKH18001625
(13)	=	ORANGE SAWDUST		Refer	BKKH18001625

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

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