TEST REPORT

Number: BKKH19011294

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

Date: Sep 02, 2019

Sample description:

Quantity of sample:	One (1) set
Sample description:	Wooden toy
Date information received:	August 28, 2019

Client Information:

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

Item Name:	Gears & Puzzles - Deluxe/Gears Pozzles - Standard
Item Number:	5636/5634

BKKH19011294

Tests conducted:

As requested by the applicant, for details please refer to attached pages.

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

Ladtaka Wongwiboonporn
Laboratory Manager
Hardlines Department

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TEST REPORT

Number: BKKH19011294

Conclusion:

Tested samples	Standard	Result
Submitted samples	EN71-3 : 2019 Migration of certain elements	Pass**

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Note:

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

Components	Report No.	Date
BLUE SAWDUST	BKKH19009832	Aug 15, 2019
BROWN COATING ON WOOD	BKKH19007791S1	Jul 15, 2019
DARK BLUE COATING ON WOOD	BKKH19008029S1	Jul 18, 2019
LIGHT GREEN COATING ON WOOD	BKKH19008312S1	Jul 15, 2019
LIGHT GREEN SAWDUST	BKKH19008027S1	Jul 18, 2019
ORANGE COATING ON WOOD	BKKH19008028S1	Jul 18, 2019
ORANGE SAWDUST	BKKH19008027S1	Jul 18, 2019
PINK SAWDUST	BKKH19010258	Aug 19, 2019
RED COATING ON WOOD	BKKH19007790S1	Jul 15, 2019
RED SAWDUST	BKKH19008027S1	Jul 18, 2019
SAWDUST WOOD	BKKH19008023S1	Jul 15, 2019
SOLID WOOD	BKKH19008023S1	Jul 15, 2019
WHITE COATING ON WOOD	BKKH19007793S1	Jul 15, 2019
YELLOW SAWDUST	BKKH19008027S1	Jul 18, 2019

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TEST REPORT

Number: BKKH19011294

Test conducted:

1 19 Toxic elements migration test

(A) Test result

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

Category (III): Scraped-off toy material

Element (Soluble)	Result (mg/kg)					LOD	LOQ	Limit
	(1)	(2)	(3)	(4)	(5)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminium (Al)	15	24	2680	229	ND	0.5	5	70000
Antimony (Sb)	ND	ND	ND	ND	ND	0.2	5	560
Arsenic (As)	ND	ND	<0.1	ND	ND	0.01	0.1	47
Barium (Ba)	ND	ND	<5	ND	130	0.1	5	18750
Boron (B)	35	<5	ND	ND	19	0.01	5	15000
Cadmium (Cd)	ND	ND	<0.1	ND	<0.1	0.01	0.1	17
Chromium (Cr) Δ	<0.04	0.212	0.356	0.562	0.058	0.01	0.04	-
Chromium (III) (Cr III)	NC	0.212	0.356	0.562	0.058	-	-	460
Chromium (VI) (Cr VI)	NC	<0.053#(S)	<0.053#(S)	<0.053#(S)	<0.053#(S)	-	0.053	0.053
Cobalt (Co)	ND	ND	ND	ND	ND	0.01	1	130
Copper (Cu)	ND	ND	ND	ND	ND	0.5	5	7700
Lead (Pb)	2	ND	<1	ND	2	0.1	1	23
Manganese (Mn)	43	19	12	13	41	0.01	5	15000
Mercury (Hg)	ND	ND	ND	ND	ND	0.2	1	94
Nickel (Ni)	ND	ND	ND	ND	ND	0.1	5	930
Selenium (Se)	ND	ND	ND	ND	ND	0.1	5	460
Strontium (Sr)	8	<5	ND	ND	11	0.1	5	56000
Tin (Sn) ΔΔ	ND	ND	ND	ND	ND	0.1	1	180000
Organic tin	NC	NC	NC	NC	NC	1	3	12
Zinc (Zn)	10	10	12	12	8	0.5	5	46000

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TEST REPORT

Number: BKKH19011294

Test conducted:

19 Toxic elements migration test

(A) Test result

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

Category (III): Scraped-off toy material

Element (Soluble)	Result (mg/kg)					LOD	LOQ	Limit
	(6)	(7)	(8)	(9)	(10)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminium (Al)	82	<5	10	7	ND	0.5	5	70000
Antimony (Sb)	ND	ND	ND	ND	ND	0.2	5	560
Arsenic (As)	ND	ND	ND	ND	ND	0.01	0.1	47
Barium (Ba)	ND	ND	<5	15	<5	0.1	5	18750
Boron (B)	ND	24	25	ND	25	0.01	5	15000
Cadmium (Cd)	<0.1	<0.1	ND	ND	<0.1	0.01	0.1	17
Chromium (Cr) Δ	0.269	0.069	0.05	0.117	0.372	0.01	0.04	-
Chromium (III) (Cr III)	0.269	0.069	NC	0.117	0.372	-	-	460
Chromium (VI) (Cr VI)	<0.053#(S)	<0.053#(S)	NC	<0.053#(S)	<0.053#(S)	-	0.053	0.053
Cobalt (Co)	ND	ND	ND	ND	ND	0.01	1	130
Copper (Cu)	ND	ND	ND	ND	ND	0.5	5	7700
Lead (Pb)	ND	2	1	ND	2	0.1	1	23
Manganese (Mn)	15	37	31	13	37	0.01	5	15000
Mercury (Hg)	ND	ND	ND	ND	ND	0.2	1	94
Nickel (Ni)	ND	ND	ND	ND	ND	0.1	5	930
Selenium (Se)	ND	ND	ND	ND	ND	0.1	5	460
Strontium (Sr)	<5	9	7	ND	8	0.1	5	56000
Tin (Sn) ΔΔ	ND	ND	ND	ND	ND	0.1	1	180000
Organic tin	NC	NC	NC	NC	NC	1	3	12
Zinc (Zn)	22	8	8	6	7	0.5	5	46000

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TEST REPORT

Number: BKKH19011294

Test conducted:

19 Toxic elements migration test

(A) Test result

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

Category (III): Scraped-off toy material

Element (Soluble)	Result (mg/kg)				LOD	LOQ	Limit
	(11)	(12)	(13)	(14)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminium (Al)	280	ND	1005	ND	0.5	5	70000
Antimony (Sb)	ND	ND	ND	ND	0.2	5	560
Arsenic (As)	ND	ND	0.5	ND	0.01	0.1	47
Barium (Ba)	ND	<5	ND	117	0.1	5	18750
Boron (B)	16	ND	<5	26	0.01	5	15000
Cadmium (Cd)	<0.1	ND	ND	<0.1	0.01	0.1	17
Chromium (Cr) Δ	0.121	0.138	1.2	<0.04	0.01	0.04	-
Chromium (III) (Cr III)	0.121	0.138	1.2	NC	-	-	460
Chromium (VI) (Cr VI)	<0.053#(S)	<0.053#(S)	<0.053#(S)	NC	-	0.053	0.053
Cobalt (Co)	ND	ND	ND	ND	0.01	1	130
Copper (Cu)	ND	ND	ND	ND	0.5	5	7700
Lead (Pb)	1	<1	ND	2	0.1	1	23
Manganese (Mn)	38	39	7	45	0.01	5	15000
Mercury (Hg)	ND	ND	ND	ND	0.2	1	94
Nickel (Ni)	ND	ND	ND	ND	0.1	5	930
Selenium (Se)	ND	ND	ND	ND	0.1	5	460
Strontium (Sr)	7	10	ND	11	0.1	5	56000
Tin (Sn) ΔΔ	ND	ND	ND	ND	0.1	1	180000
Organic tin	NC	NC	NC	NC	1	3	12
Zinc (Zn)	23	<5	<5	10	0.5	5	46000

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TEST REPORT

Number: BKKH19011294

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
(S) = Test item has been tested by subcontractor approved by Intertek.

- 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.
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.

- Organic tin test result was expressed as tributyl tin.

- As per EC decision 2013/492/EU of 7 October 2013 and in accordance with Court's Order of 15 May 2013 in case T-198/12R, the European Commission authorizes that the national provisions notified by the Federal Republic of Germany concerning limit values for Antimony(Sb)(60mg/kg), Arsenic (As)(25mg/kg), Mercury (Hg)(60mg/kg), Barium (Ba)(1000mg/kg) and Lead (Pb)(90mg/kg) in toys be maintained beyond 20 July 2013.

= 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).

* = Confirmation test was performed on the tested component. The reported value was the sum of the migration values of Methyl tin, Butyl tin, Dibutyl tin, Tributyl tin, Tetrabutyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin and Triphenyl tin after converted to Tributyl tin by calculation.

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TEST REPORT

Number: BKKH19011294

Test conducted:

Tested components:

		Report	Date
(1)	BLUE SAWDUST	REFER BKKH19009832	Aug 15, 2019
(2)	BROWN COATING ON WOOD	REFER BKKH19007791S1	Jul 15, 2019
(3)	DARK BLUE COATING ON WOOD	REFER BKKH19008029S1	Jul 18, 2019
(4)	LIGHT GREEN COATING ON WOOD	REFER BKKH19008312S1	Jul 15, 2019
(5)	LIGHT GREEN SAWDUST	REFER BKKH19008027S1	Jul 18, 2019
(6)	ORANGE COATING ON WOOD	REFER BKKH19008028S1	Jul 18, 2019
(7)	ORANGE SAWDUST	REFER BKKH19008027S1	Jul 18, 2019
(8)	PINK SAWDUST	REFER BKKH19010258	Aug 19, 2019
(9)	RED COATING ON WOOD	REFER BKKH19007790S1	Jul 15, 2019
(10)	RED SAWDUST	REFER BKKH19008027S1	Jul 18, 2019
(11)	SAWDUST WOOD	REFER BKKH19008023S1	Jul 15, 2019
(12)	SOLID WOOD	REFER BKKH19008023S1	Jul 15, 2019
(13)	WHITE COATING ON WOOD	REFER BKKH19007793S1	Jul 15, 2019
(14)	YELLOW SAWDUST	REFER BKKH19008027S1	Jul 18, 2019

Note:

1. The toxic elements of EN71-3 was not conducted on the above components of samples. Applicant claimed the components were tested on our previous test report.
2. According to European standard on safety of toys EN71-3. As received, the test portion of the components are less than 10 mg, therefore such components were not tested for toxic.

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TEST REPORT

Number: BKKH19011294

Test conducted:

(B) Categories of various toy materials

Category I: dry, brittle, powder like or pliable

Solid toy material from which powder-like material is released during playing and semi-solid materials that may also leave residues on the hands during play. the material can be ingested. contamination of the hands with the material may contribute to the oral exposure of the material. (e.g. the cores of colouring pencils, chalk, crayons, modelling clays and plaster).

Category II: Liquid or Sticky

Fluid or viscous toy material, which can be ingested or to which dermal exposure may occur during playing. (e.g. liquid paints, finger paints, liquid ink in pens, glue sticks, slimes, bubble solution).

Category III: Scraped-off

Solid toy material with or without a coating, which can be ingested as a result of biting, tooth scraping, sucking or licking. (e.g. coatings, lacquers, plastics, paper, textiles, glass, ceramic, metallic, wooden, bone , leather and other materials).

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.

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

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

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