

TEST REPORT

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The results relate only to the item tested.

Number: BKKH19013612

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

Date: Oct 15, 2019

Sample description:

Quantity of sample: One (1) set
Sample description: Wooden toy
Date information received: October 07, 2019

Client Information:

One (1) set of submitted sample said to be TWISTED BLOCKS

Item Name: TWISTED BLOCKS
Item Number: 5508



Tests conducted:

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

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

Ladtaka Wongwiboonporn
Ladtaka Wongwiboonporn
Laboratory Manager
Hardlines Department



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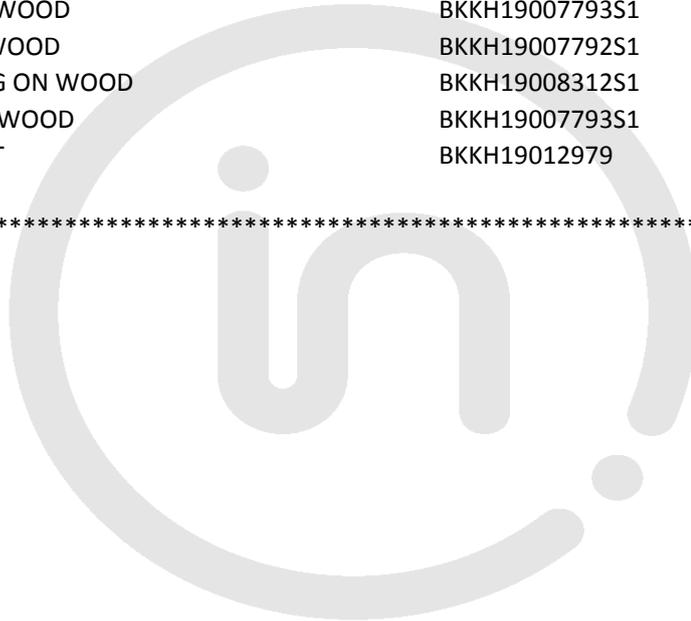
Conclusion:

<u>Tested samples</u> Submitted samples	<u>Standard</u> EN71-3 : 2019 Migration of certain elements	<u>Result</u> 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.

<u>Components</u>	<u>Report No.</u>	<u>Date</u>
SOLID WOOD	BKKH19008023S1	Jul 15, 2019
BLACK COATING ON WOOD	BKKH19007793S1	Jul 15, 2019
GRAY COATING ON WOOD	BKKH19007792S1	Jul 15, 2019
LIGHT GRAY COATING ON WOOD	BKKH19008312S1	Jul 15, 2019
WHITE COATING ON WOOD	BKKH19007793S1	Jul 15, 2019
WHITE PLASTIC JOINT	BKKH19012979	Oct 03, 2019



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Number: BKKH19013612

Test conducted:

- 1 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 (mg/kg)					LOD	LOQ	Limit
	(1)	(2)	(3)	(4)	(5)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminium (Al)	ND	<5	223	1432	1005	0.5	5	70000
Antimony (Sb)	ND	ND	ND	ND	ND	0.2	5	560
Arsenic (As)	ND	ND	ND	ND	0.5	0.01	0.1	47
Barium (Ba)	<5	ND	ND	<5	ND	0.1	5	18750
Boron (B)	ND	ND	<5	ND	<5	0.01	5	15000
Cadmium (Cd)	ND	ND	ND	ND	ND	0.01	0.1	17
Chromium (Cr) Δ	0.138	0.321	0.466	0.437	1.2	0.01	0.04	-
Chromium (III) (Cr III)	0.138	0.321	0.466	0.437	1.2	-	-	460
Chromium (VI) (Cr VI)	<0.053#(S)	<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)	<1	<1	1	1	ND	0.1	1	23
Manganese (Mn)	39	15	16	15	7	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)	10	12	ND	ND	ND	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)	<5	7	5906	192	<5	0.5	5	46000



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Test conducted:

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

<u>Element (Soluble)</u>	<u>Result (mg/kg)</u>	<u>LOD (mg/kg)</u>	<u>LOQ (mg/kg)</u>	<u>Limit (mg/kg)</u>
	(6)			
Aluminium (Al)	ND	0.5	5	70000
Antimony (Sb)	ND	0.2	5	560
Arsenic (As)	ND	0.01	0.1	47
Barium (Ba)	ND	0.1	5	18750
Boron (B)	ND	0.01	5	15000
Cadmium (Cd)	ND	0.01	0.1	17
Chromium (Cr) Δ	ND	0.01	0.04	-
Chromium (III) (Cr III)	NC	-	-	460
Chromium (VI) (Cr VI)	NC	-	0.05	0.053
Cobalt (Co)	ND	0.01	1	130
Copper (Cu)	ND	0.5	5	7700
Lead (Pb)	ND	0.1	1	23
Manganese (Mn)	ND	0.01	5	15000
Mercury (Hg)	ND	0.2	1	94
Nickel (Ni)	ND	0.1	5	930
Selenium (Se)	ND	0.1	5	460
Strontium (Sr)	ND	0.1	5	56000
Tin (Sn) ΔΔ	ND	0.1	1	180000
Organic tin	NC	1	3	12
Zinc (Zn)	<5	0.5	5	46000



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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
(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 conducted:

Tested components:

	Report	Date
(1) SOLID WOOD	REFER BKKH19008023S1	Jul 15, 2019
(2) BLACK COATING ON WOOD	REFER BKKH19007793S1	Jul 15, 2019
(3) GRAY COATING ON WOOD	REFER BKKH19007792S1	Jul 15, 2019
(4) LIGHT GRAY COATING ON WOOD	REFER BKKH19008312S1	Jul 15, 2019
(5) WHITE COATING ON WOOD	REFER BKKH19007793S1	Jul 15, 2019
(6) WHITE PLASTIC JOINT	REFER BKKH19012979	Oct 03, 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 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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