

**Test Report**

Number : TWNH00061708

Applicant: BEST LEARNING MATERIALS CORP.  
9F, No. 303, Fu-Hsing N. Rd.,  
Songshan District, Taipei City 105,  
Taiwan, R.O.C.

Date : Mar 10, 2017

Sample Description:

One (1) group of submitted samples said to be :

Item name : Learning Cube  
Item no. : 1021,1022,1023,1024,1025,1026,1027,1028,1029  
Quantity : 1 Group  
Country of origin : China  
Goods exported to : USA  
Date sample received : MAR 03, 2017  
Date test started : MAR 03, 2017

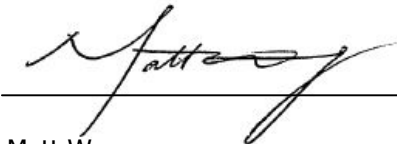
Test Conducted:

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

Conclusion:

Please see page two to three.

Authorized by:  
On Behalf of Intertek Testing Services  
Taiwan Limited



Matt Wang  
Sr. Manager



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Conclusion:

<u>Tested sample</u>	<u>Standard</u>	<u>Result</u>
Submitted Samples	Physical And Mechanical Properties – ASTM F963-16 excluding section 7.1	Pass
	Flammability Test Of Materials Other Than Textile Materials – ASTM F963-16, section 4.2	Pass
	Battery – Operated Toy – As per section 4.25 Of ASTM F963-16	Pass
Tested components of submitted samples	Toxic Elements Analysis On Coating – As per ASTM F963-16 standard Consumer Safety Specification For Toy Safety	Pass
	Toxic Elements Analysis In Substrate – As per ASTM F963-16 standard Consumer Safety Specification For Toy Safety	Pass
Submitted Samples	Physical And Mechanical Properties – ASTM F963-11 excluding section 7.1	Pass
	Flammability Test Of Materials Other Than Textile Materials - ASTM F963-11, section 4.2	Pass
	Battery – Operated Toy – As per section 4.25 Of ASTM F963-11	Pass

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**Test Report**

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Conclusion:

<u>Tested sample</u>	<u>Standard</u>	<u>Result</u>
Tested components of submitted samples	Toxic Elements Analysis On Coating - As per ASTM F963-11 standard Consumer Safety Specification For Toy Safety	Pass
	Toxic Elements Analysis In Substrate - As per ASTM F963-11 standard Consumer Safety Specification For Toy Safety	Pass
	Total Lead (Pb) Content In Surface Coating - As Per U.S. Consumer Product Safety Improvement Act 2008, Title I, Section 101	Pass
	Total Lead (Pb) Content In Non-Surface Coating Materials (Substrate) - As Per U.S. Consumer Product Safety Improvement Act 2008, Title I, Section 101	Pass
	Phthalates content - As Per U.S. Consumer Product Safety Improvement Act 2008 Title I, Section 108	Pass
	- As Per Applicant's Request With Reference To California Proposition 65 for toy (Consent Judgement no. BG-350969 and RG-356892)	Pass

Note 1: Applicant is drawn to the attention that the name and address of producer, importer or distributor and the advice statement of keeping relevant information of the toy shall appear on it as specified in section 7.1 of ASTM F963-16.

Note 2: Applicant is drawn to the attention that the name and address of producer, importer or distributor and the advice statement of keeping relevant information of the toy shall appear on it as specified in section 7.1 of ASTM F963-11.

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## Test Report

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Test Conducted

### 1. Physical And Mechanical Properties

As per ASTM F963-16 standard consumer safety specification for toy safety.

Age labeling on package / toy : For ages over 18 months

Is age label appropriate \* 1 : Yes

Age grading specified by applicant for testing : For ages over 18 months

Section	Testing items	Assessment
4.1	Material quality (visual check on cleanliness)	P
4.3.7	Stuffing material (visual check on contaminations)	NA
4.5 *	Sound-producing toys	P
4.6	Small objects	
4.6.1 *	Toys intended for children under 36 months	P
4.6.2	Mouth-actuated toys	NA
4.6.3	Toys and games for 36 months to 72 months	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	P
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 (such as helmets, hats and goggles)	NA
4.20	Pacifiers	NA
4.21 *	Projectiles toys	NA
4.22 *	Teethers and teething toys	NA
4.23 *	Rattles	NA
4.24	Squeeze toys	NA
4.25 *	Battery-operated toys	P
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
4.30	Toy gun marking	NA
4.31	Balloons	NA



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**1. Physical And Mechanical Properties**

Section	Testing items	Assessment
4.32	Certain toys with nearly spherical ends	NA
4.33	Marbles	NA
4.34	Balls	NA
4.35	Pompoms	NA
4.36	Hemispheric-shape objects	NA
4.37	Yo Yo elastic tether toys	NA
4.38 *	Magnets	NA
4.39	Jaw entrapment in handles and steering wheels	NA
5.	Labeling requirements	P
6.	Instructional literature	P
7.	Producer's markings	See Note 1

Remarks :

- \* = The submitted samples were tested in accordance with the requirements of section 8.5 through section 8.23 e.g. Normal use testing, drop test, torque test, tension test, compression test, flexure test etc. whichever is applicable.
- \*1 = Reference material CPSC's age determination guidelines 2002 and ASTM F963-11 annex A1. The most stringent test is applied if the toy or its package is not age labeled in a clear and conspicuous manner, or, based on such factors as marketing practiced and the customary patterns of usage of the toy.
- P = Pass
- NA = Not applicable

**2. Flammability Test**

As per section 4.2 of ASTM F963-16 standard consumer safety specification on toy safety.

Specimen	Burn length (inch)	Time (second)	Burn rate (inch/second)	Round burn rate (inch/second)	Limit (inch/second)	Assessment
Submitted Samples	-	-	IBE	-	0.10	P

Remarks :

- P = Pass
- IBE = Ignite but self-extinguished

In order to pass this criteria the test product shall meet one of the following conditions :

- A) Have burn rate of less than 0.10 inch/second. (Round the burn rate to the nearest tenth ,that is round 0.04 up to 0, 0.06 up to 0.10, 0.15 up to 0.2)
- B) DNI = Did not ignite.
- C) IBE = Ignited but self-extinguished in a very short period which cannot be measured accurately.



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**3. Battery-Operated Toys**

As per ASTM standard consumer safety specification on toy safety F963-16 section 4.25, 5.15.

Labelled age group : For ages over 18 months  
 Is labelled age group appropriate : Yes  
 Age grading for testing : For ages over 18 months

<u>Section</u>	<u>Testing items</u>	<u>Assessment</u>
<u>4.25.1</u>	Battery marking	P
	Instruction requirement	
	- 5.15 Non-replaceable batteries	NA
<u>4.25.2</u>	Maximum allowable direct current potential	P
<u>4.25.3</u>	Protection against charging non-Rechargeable battery	P
<u>4.25.4</u>	Accessible batteries	P
<u>4.25.5</u>	Accessible batteries that can fit completely within small part cylinder	P
<u>4.25.6</u>	Isolation of batteries of different types or capacities	P
<u>4.25.7</u>	Temperature of battery surface	P
<u>4.25.8</u>	Temperature of battery surface or combustion hazard after normal use and Abuse test	P
<u>4.25.9</u>	Instruction requirement	P
	- 6.5 Instruction on safe battery usage	NA
<u>4.25.10</u>	Battery-powered ride on toys	NA

Remark : P = Pass ; NA = Not applicable



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Test Conducted

**4. Toxic Elements Analysis On Coating**

As per section 8.3.2,8.3.3 and 8.3.4 of the ASTM F963-16 and CPSIA Test Method: CPSC-CH-E1003-09.1, acid digestion and extraction methods were used and toxic elements content were determined by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) and Atomic Absorption Spectrophotometer (AAS).

<u>Element</u>	<u>Result (mg/kg)</u>	<u>DL (mg/kg)</u>	<u>Limit (mg/kg)</u>
	(1)		
Tot. Lead (Pb)	ND	20	90
Sol. Lead (Pb)	ND	5	90
Sol. Cadmium (Cd)	ND	5	75
Sol. Antimony (Sb)	ND	5	60
Sol. Chromium (Cr)	ND	5	60
Sol. Barium (Ba)	ND	5	1000
Sol. Mercury (Hg)	ND	5	60
Sol. Selenium (Se)	ND	5	500
Sol. Arsenic (As)	ND	2.5	25

Remarks: mg/kg = Milligram per kilogram based on dry weight of sample  
 Tot. = Total  
 Sol. = Soluble  
 ND = Not detected  
 DL = Detection limit

The results of soluble elements content were adjusted by subtracting analytical correction factor.



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**5. Toxic Elements Analysis In Substrate**

As per section 8.3.5 of the ASTM F963-16 and CPSIA Test Method: CPSC-CH-E1001-08.3 (metal substrates) and CPSC-CH-E1002-08.3 (non-metal substrates), acid digestion and extraction methods were used and toxic elements content were determined by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) and Atomic Absorption Spectrophotometer (AAS).

Element	Result (mg/kg)								DL (mg/kg)	Limit (mg/kg)
	(2)	(3)	(4)	(5)	(6)	(7)	(8)			
Tot. Lead (Pb)	ND	ND	ND	ND	ND	ND	ND	ND	20	100
Sol. Lead (Pb)	ND	ND	ND	ND	ND	ND	ND	ND	5	90
Sol. Cadmium (Cd)	ND	ND	ND	ND	ND	ND	ND	ND	5	75
Sol. Antimony (Sb)	ND	ND	ND	ND	ND	ND	ND	ND	5	60
Sol. Chromium (Cr)	ND	ND	ND	ND	ND	ND	ND	ND	5	60
Sol. Barium (Ba)	ND	ND	ND	ND	ND	ND	ND	ND	5	1000
Sol. Mercury (Hg)	ND	ND	ND	ND	ND	ND	ND	ND	5	60
Sol. Selenium (Se)	ND	ND	ND	ND	ND	ND	ND	ND	5	500
Sol. Arsenic (As)	ND	ND	ND	ND	ND	ND	ND	ND	2.5	25

Remarks: mg/kg = Milligram per kilogram based on weight of sample  
 Tot. = Total  
 Sol. = Soluble  
 ND = Not detected  
 DL = Detection limit

The results of soluble elements content were adjusted by subtracting analytical correction factor.



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Test Conducted

### **6. Physical And Mechanical Properties**

As per ASTM F963-11 standard consumer safety specification for toy safety.

Age labeling on package / toy : For ages over 18 months

Is age label appropriate \* 1 : Yes

Age grading specified by applicant for testing : For ages over 18 months

<u>Section</u>	<u>Testing items</u>	<u>Assessment</u>
4.1	Material quality (visual check on cleanliness)	P
4.3.7	Stuffing material (visual check on contaminations)	NA
4.5 *	Sound-producing toys	P
4.6	Small objects	
4.6.1 *	Toys intended for children under 36 months	P
4.6.2	Mouth-actuated toys	NA
4.6.3	Toys and games for 36 months to 72 months	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	P
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 (such as helmets, hats and goggles)	NA
4.20	Pacifiers	NA
4.21 *	Projectiles toys	NA
4.22 *	Teethers and teething toys	NA
4.23 *	Rattles	NA
4.24	Squeeze toys	NA
4.25 *	Battery-operated toys	P
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
4.30	Toy gun marking	NA
4.31	Balloons	NA



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**6. Physical And Mechanical Properties**

Section	Testing items	Assessment
4.32	Certain toys with nearly spherical ends	NA
4.33	Marbles	NA
4.34	Balls	NA
4.35	Pompoms	NA
4.36	Hemispheric-shape objects	NA
4.37	Yo Yo elastic tether toys	NA
4.38*	Magnets	NA
4.39	Jaw entrapment in handles and steering wheels	NA
5.	Labeling requirements	P
6.	Instructional literature	P
7.	Producer's markings	See Note 2

Remarks :

- \* = The submitted samples were tested in accordance with the requirements of section 8.5 through section 8.23 e.g. Normal use testing, drop test, torque test, tension test, compression test, flexure test etc. whichever is applicable.
- \*1 = Reference material CPSC's age determination guidelines 2002 and ASTM F963-11 annex A1. The most stringent test is applied if the toy or its package is not age labeled in a clear and conspicuous manner, or, based on such factors as marketing practiced and the customary patterns of usage of the toy.
- P = Pass
- NA = Not applicable

**7. Flammability Test**

As per section 4.2 of ASTM F963-11 standard consumer safety specification on toy safety.

Specimen	Burn length (inch)	Time (second)	Burn rate (inch/second)	Round burn rate (inch/second)	Limit (inch/second)	Assessment
Submitted Samples	-	-	IBE	-	0.10	P

Remarks :

- P = Pass
- IBE = Ignite but self-extinguished

In order to pass this criteria the test product shall meet one of the following conditions :

- A) Have burn rate of less than 0.10 inch/second. (Round the burn rate to the nearest tenth ,that is round 0.04 up to 0, 0.06 up to 0.10, 0.15 up to 0.2)
- B) DNI = Did not ignite.
- C) IBE = Ignited but self-extinguished in a very short period which cannot be measured accurately.



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**8. Battery-Operated Toys**

As per ASTM standard consumer safety specification on toy safety F963-11 section 4.25, 5.15 & 6.5.

Labelled age group : For ages over 18 months  
 Is labelled age group appropriate : Yes  
 Age grading for testing : For ages over 18 months

<u>Section</u>	<u>Testing items</u>	<u>Assessment</u>
<u>4.25.1</u>	Battery marking	P
	Instruction requirement	
	- 5.15 Non-replaceable batteries	NA
<u>4.25.2</u>	Maximum allowable direct current potential	P
<u>4.25.3</u>	Protection against charging non-Rechargeable battery	P
<u>4.25.4</u>	Accessible batteries	P
<u>4.25.5</u>	Accessible batteries that can fit completely within small part cylinder	P
<u>4.25.6</u>	Isolation of batteries of different types or capacities	P
<u>4.25.7</u>	Temperature of battery surface	P
<u>4.25.8</u>	Temperature of battery surface or combustion hazard after normal use and Abuse test	P
<u>4.25.9</u>	Instruction requirement	P
	- 6.5 Instruction on safe battery usage	P
<u>4.25.10</u>	Battery-powered ride on toys	NA

Remark : P = Pass ; NA = Not applicable



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**9. Toxic Elements Analysis On Coating**

As per section 8.3.2,8.3.3 and 8.3.4 of the ASTM F963-11 and CPSIA Test Method: CPSC-CH-E1003-09.1, acid digestion and extraction methods were used and toxic elements content were determined by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) and Atomic Absorption Spectrophotometer (AAS).

<u>Element</u>	<u>Result (mg/kg)</u>	<u>DL (mg/kg)</u>	<u>Limit (mg/kg)</u>
	(1)		
Tot. Lead (Pb)	ND	20	90
Sol. Lead (Pb)	ND	5	90
Sol. Cadmium (Cd)	ND	5	75
Sol. Antimony (Sb)	ND	5	60
Sol. Chromium (Cr)	ND	5	60
Sol. Barium (Ba)	ND	5	1000
Sol. Mercury (Hg)	ND	5	60
Sol. Selenium (Se)	ND	5	500
Sol. Arsenic (As)	ND	2.5	25

Remarks: mg/kg = Milligram per kilogram based on dry weight of sample  
 Tot. = Total  
 Sol. = Soluble  
 ND = Not detected  
 DL = Detection limit

The results of soluble elements content were adjusted by subtracting analytical correction factor.



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**10. Toxic Elements Analysis In Substrate**

As per section 8.3.5 of the ASTM F963-11 and CPSIA Test Method: CPSC-CH-E1001-08.3 (metal substrates) and CPSC-CH-E1002-08.3 (non-metal substrates), acid digestion and extraction methods were used and toxic elements content were determined by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) and Atomic Absorption Spectrophotometer (AAS).

Element	Result (mg/kg)							DL (mg/kg)	Limit (mg/kg)
	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
Tot. Lead (Pb)	ND	ND	ND	ND	ND	ND	ND	20	100
Sol. Lead (Pb)	ND	ND	ND	ND	ND	ND	ND	5	90
Sol. Cadmium (Cd)	ND	ND	ND	ND	ND	ND	ND	5	75
Sol. Antimony (Sb)	ND	ND	ND	ND	ND	ND	ND	5	60
Sol. Chromium (Cr)	ND	ND	ND	ND	ND	ND	ND	5	60
Sol. Barium (Ba)	ND	ND	ND	ND	ND	ND	ND	5	1000
Sol. Mercury (Hg)	ND	ND	ND	ND	ND	ND	ND	5	60
Sol. Selenium (Se)	ND	ND	ND	ND	ND	ND	ND	5	500
Sol. Arsenic (As)	ND	ND	ND	ND	ND	ND	ND	2.5	25

Remarks: mg/kg = Milligram per kilogram based on weight of sample  
 Tot. = Total  
 Sol. = Soluble  
 ND = Not detected  
 DL = Detection limit

The results of soluble elements content were adjusted by subtracting analytical correction factor.

**11. Total Lead (Pb) Content In Surface Coating**

According to CPSIA Test Method: CPSC-CH-E1003-09.1, by acid digestion method and Atomic Absorption Spectrophotometer (AAS) analysis.

Tested Component	Result (ppm)	Limit (ppm)
(1)	ND	90

Remarks: ppm = Parts per million = mg/kg  
 ND = Not detected  
 Detection limit = 20 ppm



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**12. Total Lead (Pb) Content In Non-Surface Coating Materials (Substrate)**

According to CPSIA Test Method: CPSC-CH-E1002-08.3(non-metal) and CPSC-CH-E1001-08.3(metal), by acid digestion and Atomic Absorption Spectrophotometer (AAS) analysis.

<u>Tested Component</u>	<u>Result (ppm)</u>	<u>Limit (ppm)</u>
(2)	ND	100
(3)	ND	100
(4)	ND	100
(5)	ND	100
(6)	ND	100
(7)	ND	100
(8)	ND	100

Remarks: ppm = Parts per million = mg/kg  
 ND = Not detected  
 Detection limit = 20 ppm

**13. Phthalates Content**

According to CPSIA Test Method: CPSC-CH-C1001-09.3, by solvent extraction and Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

<u>Compound</u>	<u>Result (%)</u>				<u>Limit <sup>A</sup></u>	<u>Limit <sup>B</sup></u>
	<u>(1)</u>	<u>(2/3/4)</u>	<u>(5/6/7)</u>	<u>(8)</u>	<u>(%)</u>	<u>(%)</u>
Diethyl Hexyl Phthalate (DEHP)	ND	ND	ND	ND	0.1	0.1
Dibutyl Phthalate (DBP)	ND	ND	ND	ND	0.1	0.1
Benzyl Butyl Phthalate (BBP)	ND	ND	ND	ND	0.1	0.1
Di-(Iso-Nonyl) Phthalate (DINP)	ND	ND	ND	ND	0.1	--
Di-(Iso-Decyl) Phthalate (DIDP)	ND	ND	ND	ND	0.1	0.1
Di-(N-Octyl) Phthalate (DNOP)	ND	ND	ND	ND	0.1	--
Di-(N-Hexyl) Phthalate (DNHP)	ND	ND	ND	ND	--	0.1

Remarks: % = Percentage based on weight of tested sample  
 ND = Not detected  
 A = Limit of CPSIA  
 B = Limit of California Proposition 65  
 Detection limit = 0.010% (for each compound)  
 The above limit of California Proposition 65 was quoted from the Consent Judgement no. BG-350969 and RG-356892 settled by the Superior Court of the state of California for the County of Alameda, for toys based on the California Proposition 65.



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Tested Components:

- (1) White Coating
  - (2) Grass Green Plastic Button
  - (3) White Plastic Body Housing
  - (4) Yellow Plastic Button
  - (5) White Plastic Button
  - (6) Red Plastic Button
  - (7) Navy Blue Plastic Button
  - (8) Purple Plastic Button
- 



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End of Report

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